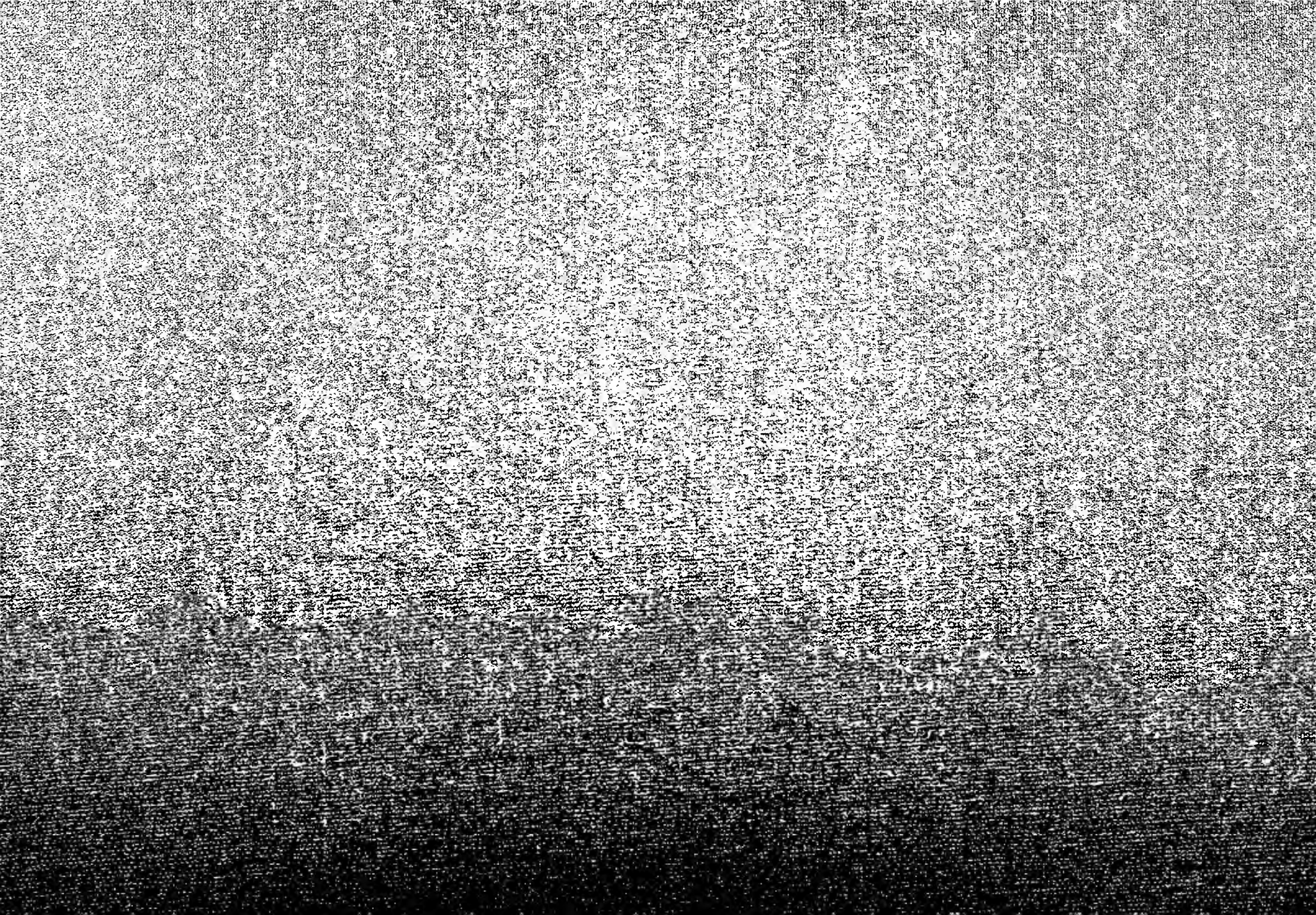

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TO PROVIDE

CONSULTING ENGINEERING, LANDSCAPE ARCHITECTURE, SURVEYING AND RESIDENT ENGINEERING SERVICES

SUBMITTED TO

BOSTON REDEVELOPMENT AUTHORITY

BY

BRYANT ASSOCIATES, INC
CONSULTING ENGINEERS
BOSTON MA.

In Association With

CAROL R. JOHNSON AND ASSOCIATES, INC
LIN ASSOCIATES, INC
HALEY AND ALDRICH, INC

DECEMBER 19, 1988

BRYANT ASSOCIATES, INC.
Consulting Engineers
648 Beacon Street
Boston, Mass. 02215

BRYANT ASSOCIATES, INC.
Consulting Engineers

648 BEACON STREET
P O BOX 38 KENMORE STATION
BOSTON, MASSACHUSETTS 02215-0038
TELEPHONE (617) 247-1800

December 19, 1988

Boston Redevelopment Authority
City Hall, Room 943
One City Hall Square
Boston, Massachusetts 02201

REFERENCE: Request for Proposal
South End Urban Renewal Area
Shawmut Avenue - Upton to East Berkeley Streets
Services for Design / Resident Engineering

Gentlemen:

Bryant Associates, Inc., in response to your Request for Proposal dated December, 8, 1988, is pleased to submit this **Proposal for Design and Engineering Consultation Services including Resident Engineering** for street scape improvements to Shawmut Avenue between Upton Street and East Berkeley Street.

This Proposal includes a description of what we perceive as key issues and our approach to the work, a manhour / cost budget, company profiles, project staffing, and SF 254 & 255's with Resumes.

We have assembled a team of professional firms having broad experience in each technical area that must be addressed. Moreover, these firms which have worked successfully together on other recent projects, are familiar with the requirements of the Authority and the various agencies of the City of Boston. As a result, we are able to move quickly into substantive design work.

To compliment the Bryant Associates engineering and survey capabilities, our Project Team includes the three firms listed below:

- Carol R. Johnson & Associates, Inc. - WBE
  Landscape Architects
- Lin Associates, Inc. - MBE
  Structural Engineers
- Haley & Aldrich, Inc.
  Geotechnical Engineers

As a team we offer the Authority a particular advantage in several important respects:

A. Much of the work will involve Engineering Analyses and Assessments of the existing physical conditions of the street especially of areaway structures within the Shawmut Avenue and intersecting street sidewalks.

Of particular concern are the conditions of existing side street neckdowns previously constructed which are now showing signs of settlement and disrepair, sidewalk areaways and back of sidewalk features which must be dealt with, and the condition and placement of existing trees some of which have been vandalized and may be dying.

Bryant Associates recently completed the reconstruction of Northern Avenue from Commonwealth Pier (World Trade Center) to the Marine Industrial Park past Jimmy's Harborside. This project which included Engineering Assessments as part of the final design also received an **Award for Excellence** from the National Concrete Masonry Association.

Bryant Associates is also familiar with the practical aspects of design gained through the performance of resident engineering and construction inspection services for many clients, including the Authority.

B. **Bryant Associates (BAI)** and Carol R. Johnson & **Associates (CRJ&A)** have worked on numerous projects together in the past, BAI providing professional engineering services, and CRJ&A providing landscape architectural services. Through this professional relationship our firms have had considerable experience in all aspects related to the design of street scape reconstruction projects, and both are familiar with the Shawmut Avenue neighborhoods. One of the Boston projects completed by the BAI / CRJ&A team which reflects the neighborhood's environment is represented by the **Mayor Curley Memorial Park** near Fanuiel Hall.

C. Some structural and foundation considerations associated with areaway reconstruction in sidewalks will probably be required. Therefore, as we have done in the past, we have solicited the services of Lin Associates for structural reviews and Haley & Aldrich for geotechnical reviews, when required. Of concern are

the numerous areaways extending from the old buildings on both sides of Shawmut Avenue.

D. Experienced Project and Assistant Project Managers, both of whom are familiar with the Authority's procedures and design criteria (both having been actively preparing BRA South End Urban Renewal Contracts for over ten years), and a staff that is fully qualified in developing contract documents for street reconstruction projects. Both the Project Manager and Assistant Project Manager were involved in the BRA's South End Street Reconstruction Contracts including Site Preparation Contracts 35 and 16 and in the various BRA's EPA Sewer Separation Projects surrounding and including the Project such as Site Preparation Contracts SD-1, H-3T and SD-3.

E. An established record of designing on or below budget with an emphasis on producing deliverables on schedule.

F. Our Engineering Department is complemented by our Survey Department, under the direction of our staff's Registered Land Surveyor with five fully equipped survey parties, thereby providing a continuity in service from collecting existing information, recording existing conditions and maintaining responsibility and control of budgets and schedules during the survey and data collection phases of the project; with survey capabilities extending into the construction phase and for "as-built" drawings.

G. More than 50% of our staff are residents of Boston with 59% of the total staff being minority and/or women.

H. Our firm is capable of providing full Resident Engineering and Construction Inspection Services as we recently did for the Massachusetts Port Authority on the Northern Avenue projects, and are currently doing for the BRA in the South End Area at Yarmouth and Dartmouth Streets.

Bryant Associates eagerly welcomes the opportunity to work with the Boston Redevelopment Authority's staff on this project and to demonstrate to the Authority our design capabilities. We are available at your convenience to personally discuss in greater detail our approach to this project.

BRYANT ASSOCIATES, INC.

Bryant Associates, Inc. is dedicated to serving the Authority's needs and providing quality service. We pledge our best effort and look forward to future discussions concerning this project.

Very truly yours,

BRYANT ASSOCIATES, INC.

Jack D. Bryant JDB

Jack D. Bryant, P.E.
President

JDB:fp

PROJECT APPROACH

A. GENERAL

Preparation of the Street Reconstruction Documents for Shawmut Avenue and the corresponding Resident Engineering Services requires expertise in urban roadway engineering, landscape architecture, surveying, and construction management, as well as a thorough knowledge of the procedures and contacts of other city agencies and private utility companies. The BRA's Request for Proposal indicates a need for a Consultant which has capabilities in all these disciplines and the technical expertise to bring the total project to fruition within established schedules and budgets.

Bryant Associates (BAI) with its experienced and talented group of Engineers, Surveyors and Subconsultants has the ability to meet all of the technical requirements as well as satisfying **Minority Business Enterprise and Boston Resident** criteria. **Bryant Associates** will be the single source point of **total responsibility** and **contact** for all activities associated with the design and construction of this project. In addition to Project Management and Administration, Bryant Associates will perform all areas of design and surveys to the final submission and provide **Construction Management and Inspection** to the Project's closeout and acceptance.

Bryant Associates has designed and inspected numerous projects in and around the City of Boston and is well aware of all the various regulatory agencies, their procedures, and more importantly, their personnel. This familiarity will greatly assist in expediting the work. Agencies and groups requiring coordination on this Project include the Boston Water and Sewer Commission, Boston Public Works Department including the Public Improvements Commission, the City Street Lighting Division, the Boston Transportation Group including the Boston Traffic and Parking Department, all utility companies, the various community and business groups, and abutters. Once the initial Project parameters are set, we see our primary interrelationship being with the Authority's Engineering Department, with input from the Landscaping Division and the Community Development Department. BAI and its senior members have dealt with all these groups in the past and presently on current projects. Our staff members are familiar with the standard review processes / submittals to agencies like the BWSC increasing to the more elaborate submittals of the Public Improvements Commission for Specific Repairs, (Widening and Relocation Plans when applicable), and associated reports.

- Bryant Associates in conjunction with the Project Management and Administration tasks, will manage, participate with, and coordinate the activities of their Subconsultants as stipulated below.

- Carol R. Johnson & Associates, Inc. (CRJ&A), a prominent **Women-owned Cambridge Landscape Architectural Firm**, will furnish services in the areas of **landscaping and community participation.** In particular, CRJ&A will examine and report on the condition of all trees, make recommendations related to their position; investigate the composition (and pattern) of the sidewalks (presently contemplated to be areas of brick on sand and brick on concrete; recommended procedures for tree maintenance, selection and replacement where required, review street lighting alternatives and other furniture if desired; actively participate in community meetings; and an provide schematics / renderings to assist in community presentations.

  CRJ&A has an in-depth understanding of the street scape vocabulary and how the various streetscape elements--paving, planting, lighting, signage, and street furniture link and compliment architectural buildings on both sides of the street, other as well as active areas at either end of the street. When successfully designed and installed, these features help create project unity. CRJ&A is also sensitive to the importance of long-term maintenance to the success of the street scape revitalization effort. Design configurations, materials, and details are selected not only to make an immediate, attractive impact, but to keep on being attractive without incurring excessive operating and maintenance costs. Improvements are designed to stand up to the steady high volume use and inevitable occasional abuse which they receive in urban areas.

- Lin Associates, Inc. (LAI) is a well known MBE Structural Engineering Firm located in Boston at Cleveland Circle. In reviewing the Project several back of sidewalk walls and suspect sidewalk areaways were noted which will require investigation, and possibly may require structural design considerations as part of the overall sidewalk repairs. Similar conditions have occurred and special design considerations have been warranted on past BRA street / sidewalk projects. Foundations analysis and design may also be required for such items as back of sidewalk walls.

- Haley & Aldrich, Inc. (H&A) is a renowned **Cambridge-based Geotechnical Engineering Firm** with whom we have had the privilege of working with on numerous projects in the past. Their involvement would supplement the possible reconstruction of

areaways when required and in street reconstruction subgrade requirements. H&A would also supervise and review soils tests during the construction period, if required. A boring program is not anticipated for this project at this time.

The combination of these Firms, each having worked with the other, creates a design and inspection entity that can efficiently and expediently perform all required services the Authority will need to implement the Shawmut Avenue Reconstruction project.

B. COMPANY PROFILES

BRYANT ASSOCIATES, INC.
Consulting Engineers

Bryant Associates, Inc. (BAI) of Boston, Massachusetts is a certified Minority-owned Consulting Engineering Firm organized in 1976. The Firm provides services in all facets of Civil Engineering Design as well as in Surveying, and Construction Administration and Management.

The Company has grown during this twelve-year period to its current staff of seventy-two, and the six senior members of the Organization approach 150 years of combined Engineering and Surveying experience.

Principals of the Firm have been in responsible charge of multi-million dollar projects ranging in diversity from street and road improvement to urban and rural highways and expressways, airports, railroads and mass transit systems, site developments, maritime / waterfront parks and economic studies.

BAI is presently completing or recently completed various roadway design projects for the following Departments or Agencies:

- Massachusetts Department of Public Works
  --Route 2 Widening, Lexington / Concord--

- Massachusetts Port Authority
  --Reconstruction of Northern Avenue, Phases I and II/III--

- Rhode Island Department of Transportation
  --Reconstruction of Rockville-Alton Road, Hopkinton, RI--
  --Reconstruction of Route 94, Foster, RI--

- Gardner Community Development and Planning Department
  --Reconstruction of Lower Main Street--

- City of Lowell
  --Reconstruction of Pawtucket Boulevard--

CAROL R. JOHNSON & ASSOCIATES, INC.
Landscape Architects / Site Planners

Carol R. Johnson & Associates, Inc. (CRJ&A), a certified Woman-owned Business Enterprise, was established in 1959 and has provided service in Landscape Architecture, Site Planning, Site Engineering and Environmental Planning, to public and private sector clients from its Harvard Square Cambridge office for 27 years. During this time, CRJ&A has expanded into a 40 person firm with projects extending across the United States and into Canada and overseas.

Its staff of Professional Designers offers the following in-house services for all projects whether they be open space or recreational planning and development, urban design, site planning and site design for hospitals, schools, housing, pubic institutions, industrial and commercial facilities, or transportation facilities.

- Site Analysis
- Site Planning and Landscape Design
- Resource Inventory and Environmental Quality Studies
- Design Development and Goal Formulation
- Programs for Preservation of Natural Resources
- Environmental Impact Studies
- Land Use and Development Controls
- Master Site Planning and Strategic Development Planning
- Town and Regional Planning
- Urban Landscape Development and Revitalization
- Historic Landscape Preservation, and Restoration
- Community Participation
- Cost Estimation, Preparation of Contract Documents and Bid Evaluation
- Site Construction Observation, Site Maintenance Program Planning, and Maintenance Cost Estimating

CRJ&A works both as direct consultant to clients and as a subconsultant to other design professionals. The Firm enjoys long-term professional relationships with municipal, state, and federal government agencies, and with leading architects and engineers throughout New England.

CRJ&A has built a reputation for high quality site design which carefully integrates the client's needs and objectives with the natural opportunities of each particular site.

Over the years, CRJ&A projects have been recognized for their excellence in design and implementation by such groups as the American Society of Landscape Architects; the U.S. Department of Transportation; the American Society of Nurserymen; the Massachusetts Horticultural Society; and the Boston Society of Landscape Architects.

LIN ASSOCIATES, INC.
Structural Engineers

Lin Associates, Inc. (LAI) is a Structural Engineering Firm located at Cleveland Circle in Brookline. LAI was organized in 1978 and is a certified MBE and through the years has become noted for their bridge, building and foundation expertise.

HALEY & ALDRICH, INC.
Geotechnical Engineers

Haley & Aldrich, Inc. (H&A), organized in 1957, is a nationally recognized Geotechnical Consultant based in Cambridge. Their

expertise is as diversified as it is complex. They provide Geotechnical input from utility installation to designing and promoting the successful build-up and down technique used at Rowes Wharf.

C. COORDINATION AND CONTROL

The Project will, at all times, be under the unified management and control of Bryant Associates.

The Project Office will be the Bryant Associates, Inc. Boston Office located at:

648 Beacon Street
Boston, MA 02215
(617) 247-1800
FAX: (617) 247-4921

The Office is managed by the President of the Firm, Mr. Jack D. Bryant, who is a Registered Professional Engineer in Massachusetts.

The Project Manager will be the Principal-in-Charge, **Mr. John J. Phillips.** He is a Registered Professional Engineer in Massachusetts and has extensive experience on a diversity of projects throughout the area. He also is very familiar with BRA procedures, having worked on numerous BRA design and construction projects including many street reconstruction contracts in the South End and North Station Renewal Areas for ten years as a Principal Engineer and Project Manager as his Resume attests.

The Project Manager will supervise his staff of Engineers, Technicians, Surveyors, Drafters, Inspectors and Subconsultants, and will coordinate the work and maintain continuous communication with the BRA's Project Manager and Contract Manager. The Project Manager will oversee all aspects of the work to be performed by the Subconsultants, and will monitor schedules, performance, and quality and cost control for the Project.

Assisting Mr. Phillips will be **Mr. George F. Monaghan, Jr.** Mr. Monaghan also worked on BRA Projects alongside Mr. Phillips in the South End for over ten years playing a major role in acquiring and administrating the Grants from EPA and DEQE for all of the funded sewer and drain projects realized in the South End area.

This combination of Messrs. Phillips and Monaghan gives the BRA a team that will assure the Project's successful completion.

All work will be performed under the direct supervision of the Principals of BAI who will monitor and be responsible for all design activities. They will always be available for consultation at the convenience of the Boston Redevelopment Authority.

Bryant Associates is presently working with Carol R. Johnson & Associates (CRJ&A) on several projects including the MWRA's Early Site Preparation on Deer Island, the U.S. Postal Service's North Reading General Mail Facility, and EDIC's Jackson Square Redevelopment Project. On a past project, the firms combined their talents as Engineer and Landscape Architect to complete the very recognizable Mayor Curley Memorial Park behind Boston City Hall. Similarly, Bryant Associates is currently affiliated with Haley & Aldrich (H&A) on the MWRA's Early Site Preparation and the EDIC's Jackson Square Redevelopment Project. As Subconsultants to Bryant Associates, H&A is performing the Geotechnical and 21E Hazardous Waste Studies on both of the above projects. Currently Lin Associates is providing structural engineering services to Bryant Associates for the Bryant Associates contract with BWSC for Modifications to the South Boston Interceptor.

D. AFFIRMATIVE ACTION AND BOSTON RESIDENCY / HIRING

Bryant Associates, being a certified Minority-owned Firm, stands committed to the principals of Affirmative Action as stipulated on the attached Company Policy.

Bryant Associates continually asserts its efforts to hire employees and to seek subcontractors and suppliers without discrimination because of race, creed, color, national origin, sex or age and to treat our employees equally with respect to compensation and opportunities for advancement. We adhere to this statement and support the Affirmative Action Policy as stated in the Federal Regulations of September 1976.

Confirmation of this policy is evidenced by the following comparison of our Boston Office's December 15, 1988 census which exceeds the City of Boston Supplemental Minority Participation and Resident Preference Section Work Force Requirements:

	City of Boston	Bryant Associates
Boston Resident	50%	52%
Minority Employees	25%	46%
Female Employees	10%	27%

Bryant Associates also attempts, whenever practicable, to engage subconsultants that are either MBE's or WBE's. Solicitation of professional services from Carol R. Johnson & Associates, a WBE, for Landscaping and Community Participation, and Lin Associates, an MBE, for Structural Consideration, confirms this Company policy. In addition to the MBE/WBE classification, our combined firms formulate into an efficient working unit brought about by years of professional service working together on numerous, diverse projects.

In addition, Bryant Associates also tries to hire people from within the area of the project and in the past we have hired survey crew members from project neighborhoods. An example occurred when Bryant Associates advertised for survey crew members for the Columbia Point (Harbor Point) Housing Rehabilitation Project, and eventually hired survey personnel for that project's survey duration.

BRYANT ASSOCIATES

January, 1988

STATEMENT
AFFIRMATIVE ACTION POLICIES AND PRACTICES

Bryant Associates, Inc., being a minority-owned firm, stands committed to the principle of equality of opportunity in employment. We continually assert our efforts to hire employees without discrimination because of race, creed, color, national origin, sex or age and to treat employees equally with respect to compensation and opportunities for advancement. We adhere to this statement and support the Affirmative Action Policy, as stated in the Federal Regulations of September, 1976.

Our commitment to assert leadership within the community and in the Professional Engineering marketplace is on a continuous basis and utilization of the capabilities and productivity of all citizens without regard to race, creed, color, national origin, sex or age.

ASSIGNMENT OF RESPONSIBILITY

The Equal Employment Manager for Bryant Associates, Inc. is Jack D. Bryant, President. He is charged with the responsibility for coordination and the maintenance of the Affirmative Action Program. All management personnel engaged in recruiting, training and other personnel activities, will be fully advised of the policy and of their responsibilities with respect to it.

BRYANT ASSOCIATES, INC
CENSUS DATA
DECEMBER 15, 1988

Last	First	B	M	W	City
Anderson	Herbert D.				Wakefield
Barnes	Allan J.				Malden
Barreto	Celia N.	*	*	*	Roxbury
Bryant	Jack D.		*		Cohasset
Burks	Larry D.	*			Boston
Calder	Marie E.	*		*	W. Roxbury
Chukwu	Chima	*	*		Mattapan
Clasby	Alison			*	Southboro
Corbett	Joan	*	*	*	Roxbury
Daniels	Andrea	*	*	*	Dorchester
Dennis	Deborah			*	Cambridge
Fagan	Kevin D.	*	*		Dorchester
Goldberg	Howard				Newton Centre
Goodwin	Douglas V.				Hudson
Grant	Kathleen	*	*	*	Mattapan
Harris	Brenda	*	*	*	Roslindale
Huggins	Callister	*	*		Mattapan
Innis	Hayden S.	*	*		Mattapan
Jackson	Fredrick	*			Hyde Park
Kiriaze	John	*			Brighton
Lindell	Leroy W.				Seekonk
Lipsitz	Norman				Westford
Louis	Wilner A.	*	*		Dorchester
Marcano	Manuel J.		*		Somerville
Mc Carron	George L.				Marshfield
Mc Hugh	Anna R.			*	Quincy
Mohamoud	Abdulhamid	*	*		Allston
Monaghan Jr.	George				Cumberland
Nugent	Louise			*	Watertown
Paquette	Faith			*	Dedham
Phillips	John J.				Tewksbury
Ridgley	Karen D.	*	*	*	Roxbury
Rivera	David	*	*		Dorchester
Romain	Rudy D.	*	*		Jamaica Plain
Rooney	Brian P.	*			Boston
Satchebelle	Alfred A.	*	*		Roxbury
Smith	A. Howard				Quincy
Stritch	Bernard				Waltham
Tighe	Lawrence S.				Sudbury
Vazquez	Edward	*	*		Jamaica Plain
Vazquez	Jose	*	*		Jamaica Plain
White	Jon-Eric				Framingham
Wilson	Ricardo	*	*		Boston
Yeaton	Peter A.				Pelham
	Totals:	23	20	12	

Total Employees: 44

B (Employees Residing in Boston)	52.3%
M (Minority Employees)	45.5%
W (Women Employees)	27.3%

The Commonwealth of Massachusetts
Executive Office of Economic Affairs
State Office of Minority and Women Business Assistance
100 Cambridge Street — Room 1300
Boston, Massachusetts 02202
(617) 727-8692

MICHAEL S. DUKAKIS
GOVERNOR
JOSEPH D. ALVIANI
SECRETARY

MUKIYA BAKER-GOMEZ
EXECUTIVE DIRECTOR

November 22, 1988

Mr. Jack Bryant
Bryant Associates, Inc.
648 Beacon Street
Boston, MA 02215

Dear Mr. Bryant:

The State Office of Minority and Women Business Assistance (SOMWBA) is pleased to notify you that your firm was reviewed on 11/17/88 and certified as a minority owned business enterprise (MBE) under the category of Engineering. The company will be listed in the both the SOMWBA Directory and in the Massachusetts Central Register which are published at regular intervals.

Additionally, the SOMWBA Directory is sent to other state agencies and authorities such as the Massachusetts Port Authority, Turnpike Authority, Department of Public Works, cities and towns and many other public and private organizations who seek to fulfill MBE utilization requirements.

Certification is not a fixed designation and SOMWBA reserves the right to monitor your company and to conduct periodic reviews of your company's books, contracts, company structure, facilities, job locations, and to withdraw its certification of your firm should this become necessary.

On or before your firm's certification anniversary date of (11/17/89), plan to send to us the following documents:

(1) The latest company financial statement
(2) The latest U.S. Corporate Tax Return or your U.S. 1040 Schedule C
(3) An updated work history
(4) Corporations submit Annual Certificate of Condition. Sole Proprietor and Partnerships submit a notarized statement indicating whether there has been any changes in the firm's legal structure, ownership or control.

Sincerely,

Mukiya Baker-Gomez, Chairperson
Certification Review Board

MBG:moe
2834s

E. PROJECT STAFFING

As noted above, Mr. Phillips will be the overall Project Manager for both the Design and Construction Management of Shawmut Avenue Reconstruction. We envision the project to be staffed by the following:

Bryant Associates, Inc. - Consulting Engineers

Project Manager (overall)	Mr. John Phillips, P.E.
Assistant Project Manager	Mr. George Monaghan, Jr.
Senior Advisor	Mr. Howard Goldberg, P.E.
Project Engineer	Mr. A. Howard Smith, P.E.
Engineers	Mr. Ricardo Wilson
	Mr. Chima Chukwu
	Mr. Jon-Eric White
Chief of Survey	Mr. Norman Lipsitz, P.L.S.
Surveyors	Mr. Herbert Anderson, Jr.
	Mr. Brian P. Rooney
Construction Inspectors	Mr. Brian P. Rooney
	Mr. Leroy Lindell, Jr.

We would also like to note that besides Messrs. Phillips' and Monaghan's experience in the South End and North Station areas for the BRA, we intend to utilize the services of Mr. Brian Rooney, a Senior Technician, for both surveys and construction inspection since he lives on Montgomery Street in the South End, two blocks from the project site. Mr. Leroy Lindell, a Senior Inspector, depending on the status of his present inspection assignment on the BRA's Resident Engineering / Inspection Services Contract (Site Preparation Contract G-2 presently) would either assist or fill in for Mr. Rooney as needed. Mr. A. Howard Smith would act as the Project Engineer, assisted by Mr. Ricardo Wilson, both having extensive experience in the design of urban roadways.

The Engineering Department will be supported by the Survey Department headed by Mr. Norman Lipsitz, P.L.S., Chief of Surveys, assisted by Mr. Herbert Anderson, Jr. A noteworthy accomplishment of Mr. Anderson's was his being named Surveyor of the Year (1988) by the New England Section of the American Congress of Surveying and Mapping (ACSM).

Carol R. Johnson & Associates, Inc. - Landscape Architects

Principal-in-Charge	Ms. Carol R. Johnson, R.L.A.
Project Director / Manager	Mr. Gerald L. Brown, R.L.A.

Mr. Brown is a senior member of CRJ&A whose expertise lies in urban design. Many of his designs can be seen throughout the Boston Metropolitan Area. Examples are:

- Moody Street Streetscape Improvements - Waltham
- Joseph Lee Playground - Fenway, Boston

. The Award-winning Massachusetts National Cemetery

Lin Associates, Inc. - Structural Engineers

Principal-in-Charge	Mr. Chan Lin, P.E.
Project Manager	Mr. Edward Chisholm, P.E.

Mr. Chisholm is a reputable Structural Engineer in the Boston area who coincidentally worked on BRA South End Projects previously with Messrs. Phillips and Monaghan as structural needs arose.

Haley & Aldrich, Inc. - Geotechnical Engineers

Principal-in-Charge	Mr. Martin Murphy, P.E.
Project Geotechnical Engineer	Mr. Michael Oakland, P.E.

Mr. Oakland is currently working with Mr. Phillips on the MWRA's Early Site Preparation Program and is in charge of the Associates extensive Geotechnical Soils Boring Program which was recently solicited and awarded. Mr. Oakland is a candidate for a Doctorate Degree.

All of these team members are available to work on this Project, and if required, additional support is available from other team members not mentioned.

F. CONSTRUCTION ESTIMATES VERSUS COSTS

Team member firms have a long-standing reputation for accurate estimating of construction costs, evidenced by the tabulation of Estimates vs. Construction Costs for the following projects:

Bryant Associates, Inc.

Project	Consultant's Estimate	Construction Cost	Year
Northern Avenue Street Reconstruction Phase I	$2,769,000	$2,747,206	1985
Commonwealth Flats Parking Facility	$1,417,000	$1,369,912	1985
Northern Avenue Street Reconstruction Phase II / III	$1,300,000	$1,338,840	1986

Carol R. Johnson & Associates, Inc.

Project	Consultant's Estimate	Construction Cost	Year
Kendall Square Urban Renewal	$ 649,000	$ 580,000	1982
John Marshall Park	$3,079,776	$2,826,225	1982
Rockwell Park Phase IV	$ 304,500	$ 291,435	1982
Harborwalk Phase I	$1,822,000	$1,939,000	1984
Cambridge Center II	$ 254,993	$ 259,834	1984
John F. Kennedy Park	$2,600,000	$2,585,000	1985
University Green	$ 252,000	$ 256,000	1985

G. FAST TRACK / COORDINATION PROJECT

Recent Experience - Case History

To illustrate Bryant Associates' ability and experience in expeditiously completing and handling projects that require flexibility and innovativeness to accommodate critical schedules, we would like to cite the following:

In 1984 Bryant Associates was selected by Massport as the Prime Consultant for a number of revitalization projects in the Northern Avenue / Commonwealth Flats area of South Boston. All of these projects had to be completed by the deadline of the opening of the World Trade Center Boston (WTCB) with severe lease penalties imposed on Massport if not completed on time. These projects ran concurrent and consecutively during a two year period and were designed for future development. The projects were as follows:

- Reconstruction of Northern Avenue - Phase I ($2.75M)

- Reconstruction of Northern Avenue - Phase II/III ($1.34M)

  These two contracts were for the complete reconstruction, including full infrastructure of 1.4 miles of urban waterfront cobble roadway with associated side streets.

- Northern Avenue Parking Facility ($1.37M)

  A 1,700 space at-grade parking facility with advanced revenue control for employees, tenants, and patrons of WTCB and the various Massport tenants.

. Northern Avenue / Commonwealth Flats Sanitary Sewer ($2.75M)

The abandonment of a deteriorated sanitary interceptor and installation of a new 18 inch through 30 inch Prestressed Concrete Cylinder Pipe, Pile Supported Sanitary Interceptor.

. Summer Street Sanitary Pumping Station ($1.70M)

An 8.3 MGD Facility.

During the design process many design reviews and modifications were accomplished in behalf of Massport during prolonged negotiations with the City of Boston (BTPD Policy and Planning, BPWD Engineering, P.I.C., and Legal Departments) concerning the ownership, design criteria, and maintenance of Northern Avenue.

Concomitantly there were complete utility upgrades and expansion for the BWSC, Boston Gas, NET&T, Edison, Conrail, and Boston Fire Alarm, each requiring significant coordination during both the design and construction phases. Simultaneously, Massport awarded separate contracts for the **Commonwealth Pier Viaduct Rehabilitation**, the controlled blasting and painting with steel repairs of the steel supporting structure of Viaduct Street and Ramp Street; the **Reroofing of Buildings 4 and 5** (Jimmy's and Jimbo's) abutting Northern Avenue with prior asbestos removal; the Reconstruction of the Boston **Fish Pier Roadways and Parking Lots**; and numerous contracts for the complete **Restoration of the Commonwealth Pier Apron Structures**. Concurrently, Commonwealth Pier was being renovated into the **World Trade Center** and EDIC was restoring adjacent roadways as the **Harbor Gateway Roadway Reconstruction** in Boston's Marine Industrial Park. Meanwhile, the various maritime industries, restaurants, car haulers, and retailers had to continue business. All of the above occurred primarily in 1985 and 1986.

During the design period, the BAI projects were analyzed, segmented into discrete contracts based on location and priority, and scheduled for bid / award / NTP with heavy emphasis given to "Construction Scheduling" and "Cooperation with Others" in the individual Special Provisions. Advice was given to Massport in scheduling other projects both in the Bid / NTP stage with corresponding special provision notations.

H. RESIDENT ENGINEERING

In reference to full time project representation during construction, Bryant Associates customarily performs the following resident engineering services for its clients.

1. Construction Phase Services - Office

(a) Provide technical interpretation of Plans and Specifications and general advice to both Contractor

and field personnel, as needed.

(b) Evaluate any subcontractors presented by the Contractor.

(c) Review shop drawings, alternative materials, or more importantly, methods of construction.

(d) Review materials delivered (Certificates of Compliance), and Material Test Reports.

(e) Monitor Construction Schedule and Budget.

(f) Perform periodic site visits and schedule / attend Coordination Meetings with Contractor and Authority personnel.

(g) Review and approve Contractor's periodic Payment Requests. Approve format of Payment Request and lump sum breakdowns. Prepare Overrun Explanations based on Payment Request.

(h) Prepare change orders whether prompted by Authority or Contractor; review, analyze, and make recommendations concerning Contractor extra work claims or time extension requests.

(i) Review any proposals to extend limits of contract and advise Authority.

(j) Schedule and perform a Final Inspection (with follow-up), prepare Punch Lists, recommend acceptance and provide appropriate closeout and certification documentation.

(k) Prepare Record Drawings by transfer of field "As-built" data to originals.

(l) Coordinate with other agencies having jurisdiction over construction, e.g. DWPC, City of Boston PWD, and Boston Transportation Department.

(m) Follow through with a one-year Warranty Inspection for deficiencies, if requested.

2. Resident Inspection / Engineering

(a) Perform a Pre-Construction Condition Survey through sequenced photography and possibly audio/visual tapes.

(b) Confirm benchmark condition and elevation.

(c) Assist in set-up of construction yard.

(d) Establish Contact List with emergency telephone numbers.

(e) Provide daily observation of Contractor's activities:

- Compliance of work / installations with Bid Documents / Shop Drawings
- Prepare daily record forms indicating labor, material, equipment, work performed, measurements, deficiencies, police details, etc.
- Maintain record drawings.
- Coordination with property owners, abutters, Authority personnel, and other agencies having jurisdiction.
- Maintain field and quantity calculation books.

(f) Prepare Weekly Summary Reports indicating work accomplished, schedule, % complete, unresolved matters, future potential problems, Contractor effort and As-built status supplied to the Authority.

(g) Quality Control and Material Testing. As required have such items as soils, concrete and paving tested by an approved independent testing company. Maintain a continual Punch List.

(h) Attend all Project Coordination Meetings.

(i) Prepare and/or review Contractor Payment Requests.

(j) Verify new invert elevations for insertion onto record drawings.

(k) Assist in the Final Inspection, follow-up to the Punch List formulated, and Warranty Inspection.

FEE PROPOSAL/RATE STRUCTURE

South End Urban Renewal Area
Parcel 16, Douglass Plaza

Classification Code	Job Title
A	Project Manager Building Architect
B	Project Engineer Senior Engineer Project Landscape Architect
C	Engineer Senior Technichian Landscape Architect
D	Senior Drafter
E	Drafter Technician Clerical
F	Chief Surveys
G	Party Chief
H	Instrument Person
I	Rod Person
J	Resident Inspector

Bryant Associates, Inc.
South End Urban Renewal Area
Shawmut Avenue

Bryant Associates Inc.

Classification Code	A	B	C	D	E	F	G	H	I	J	TOTAL HOURS	TOTAL AMOUNT
Rate	$72	$48	$40	$29	$24	$72	$30	$25	$18	$34		
Task												
Preliminary Engineering Plans	80	40	120	40	160						440	$17,480
Bid Documents	80	160	120	40	240						640	$25,160
PIC, DEQE or other Agencies	16	40		80							136	$5,392
Land Surveys	4	8	24	40	80	8	64	64	64		356	$9,960
Consult, Advise & Coordinate	80	40									120	$7,680
Resident Engineering	80	20	40		8					1200	1348	$49,312
Test of Materials											0	$0
Total Hours	340	308	304	200	488	8	64	64	64	1200	3,040	
Total Amount	$24,480	$14,784	$12,160	$5,800	$11,712	$576	$1,920	$1,600	$1,152	$40,800	$114,984	$114,984
Reimbursable Expenses												$1,500
Total												$116,484

Bryant Associates, Inc.
South End Urban Renewal Area
Shawmut Avenue

Classification Code	A	B	C	D	E	F	G	H	I	J	TOTAL HOURS	TOTAL AMOUNT
Task												
Preliminary Engineering Plans	108	120	144	40	174						586	$25,240
Bid Documents	123	270	205	40	303						941	$39,204
PIC, DEQE or other Agencies	16	40		80							136	$5,392
Land Surveys	4	8	24	40	80	8	64	64	64		356	$9,960
Consult, Advise & Coordinate	92	56									148	$9,322
Resident Engineering	121	61	44		8					1200	1434	$61,463
Test of Materials			2		6						8	$310
Hours												
BAI	340	308	304	200	488	8	64	64	64	1,200	3,040	
CRJ	104	173	109		29						415	
H&A	8	24	6		14						52	
LA	12	50			40						102	
Total Hours	464	555	419	200	571	8	64	64	64	1,200	3,609	
Amount												
BAI	$24,480	$14,784	$12,160	$5,800	$11,712	$576	$1,920	$1,600	$1,152	$40,800		$144,984
CRJ	$8,008	$7,958	$4,469		$870							$21,305
H&A	$1,000	$1,536	$300		$490							$3,326
LA	$816		$2,100		$1,560							$4,476
Total Amount	$34,304	$24,278	$19,029	$5,800	$14,632	$576	$1,920	$1,600	$1,152	$40,800		$150,891
Reimbursable Expenses												$2,600
Total Fee Proposed												$153,491

South End Urban Renewal Area
Shawmut Avenue

Carol R. Johnson & Associates, Inc.

Classification Code	A	B	C	E						
Rate	$77	$46	$41	$30					TOTAL HOURS	TOTAL AMOUNT
Task										
Preliminary Engineering Plans	24	64	24	6					118	$5,956
Bid Documents	35	62	85	23					205	$9,722
PIC, DEQE or other Agencies									0	$0
Land Surveys									0	$0
Consult, Advise & Coordinate	10	16							26	$1,506
Resident Engineering	35	31							66	$4,121
Test of Materials									0	$0
Total Hours	104	173	109	29	0	0			415	
Total Amount	$8,008	$7,958	$4,469	$870	$0	$0			$21,305	$21,305
Reimbursable Expenses										$1,000
Total										$22,305

South End Urban Renewal Area
Shawmut Avenue

Lin Associates

Classification Code	A	C	E						TOTAL HOURS	TOTAL AMOUNT
Rate	$68	$42	$39							
Task										
Preliminary Engineering Plans									0	$0
Bid Documents	6	44	40						90	$3,816
PIC, DEQE or other Agencies									0	$0
Land Surveys									0	$0
Consult, Advise & Coordinate	2								2	$136
Resident Engineering	4	6							10	$524
Test of Materials									0	$0
Total Hours	12	50	40	0	0	0			102	
Total Amount	$816	$2,100	$1,560	$0	$0	$0			$4,476	$4,476
Reimbursable Expenses										
Total									$4,476	$4,476

South End Urban Renewal Area
Shawmut Avenue

Haley and Aldrich

Title Code	A	B	C	E					TOTAL HOURS	TOTAL AMOUNT
Rate	$125	$64	$50	$35						
Task										
Preliminary Engineering Plans	4	16		8					28	$1,804
-										
Bid Documents	2	4							6	$506
PIC, DEQE or other Agencies									0	$0
Land Surveys									0	$0
Consult, Advise & Coordinate									0	$0
Resident Engineering	2	4	4						10	$706
Test of Materials			2	6					8	$310
Total Hours	8	24	6	14					52	
Total Amount	$1,000	$1,536	$300	$490	$0	$0			$3,326	$3,326
Reimbursable Expenses										$100
Total										$3,426

Estimated Reimbursable Expenses

- Purchase of Utility Plans
- Printing of Bid Documents beyond 15 copies
- Design, Pre-Construction and Construction Photographs.
- Testing of Materials
- Unusual Reproduction Services
  - Presentation Drawings
  - Wash off Mylars
- Sub-Consultant Mileage

REFERENCES

REFERENCES

BRYANT ASSOCIATES, INC.

Mr. Gordon Borek (973-5340)
Assistant Director of Engineering
for Design & Planning
Massachusetts Port Authority
State Transportation Building
Boston, MA

Mr. John Sullivan, Jr., Acting Chief Engineer
Boston Water and Sewer Commission (330-9400)
425 Summer Street
Boston, MA

Mr. John R. Dalziel
Deputy Director of Operations & Engineering
Mr. Lawrence Mammoli
Director of Program Engineering
Economic Development & Industrial Corp. of Boston (725-3300)
Operations & Engineering Department
10 Dry Dock Avenue
South Boston, MA 02210

Mr. Stanley Ivan (542-3071)
Chief Engineer
Boston Parks & Recreation Dept.
294 Washington Street
Boston, MA

Mr. Paul McHugh (973-7511)
Highways & Structures Engineer
Mass. Dept. of Public Works
State Transportation Bldg.
Boston, MA

Mr. Charles B. Steward (722-5000)
Asst. Director of Construction for Development
Massachusetts Bay Transportation Authority
Construction Directorate
Ten Park Plaza
Boston, MA

Mr. J. Michael Bennett (401-277-2023)
Acting Supervising Civil Engineer/Road Design
State of Rhode Island
Department of Transportation
Providence, RI

Mr. Frank Grady (454-8821)
City Engineer
City of Lowell
City Hall
Lowell, MA

Mr. Edward McTique (943-9357)
Director
Office of Community Development
112 Main Street
Webster, MA

REFERENCES (Cont'd)

CAROL R. JOHNSON & ASSOCIATES, INC.

Ms. Betty Flemmings
Cambridge Community Development Department
Cambridge, MA
498-9034

Mr. Joseph Tulimieri, Director
Cambridge Redevelopment Authority
Cambridge, MA
492-6800

Mr. Michael Glavin
Office of Community Development
Chelsea, MA
889-0702

Mr. Ron Nolte
Community Development
Melrose, MA
665-0604

Mr. Leo Lyden
Metropolitan District Commission
Boston, MA
727-7090

(For other references, see Relative Experience)

LIN ASSOCIATES, INC.

CLIENT REFERENCES

Weston & Sampson Engineers, Inc.
One Pleasure Island Road
Wakefield, MA 01880
Mr. Leo Peters, President
(617) 246-4410

Metcalf & Eddy, Inc.
10 Harvard Mill Square
Wakefield, MA 01880
Mr. Edward Greco, Vice President
(617) 246-5200

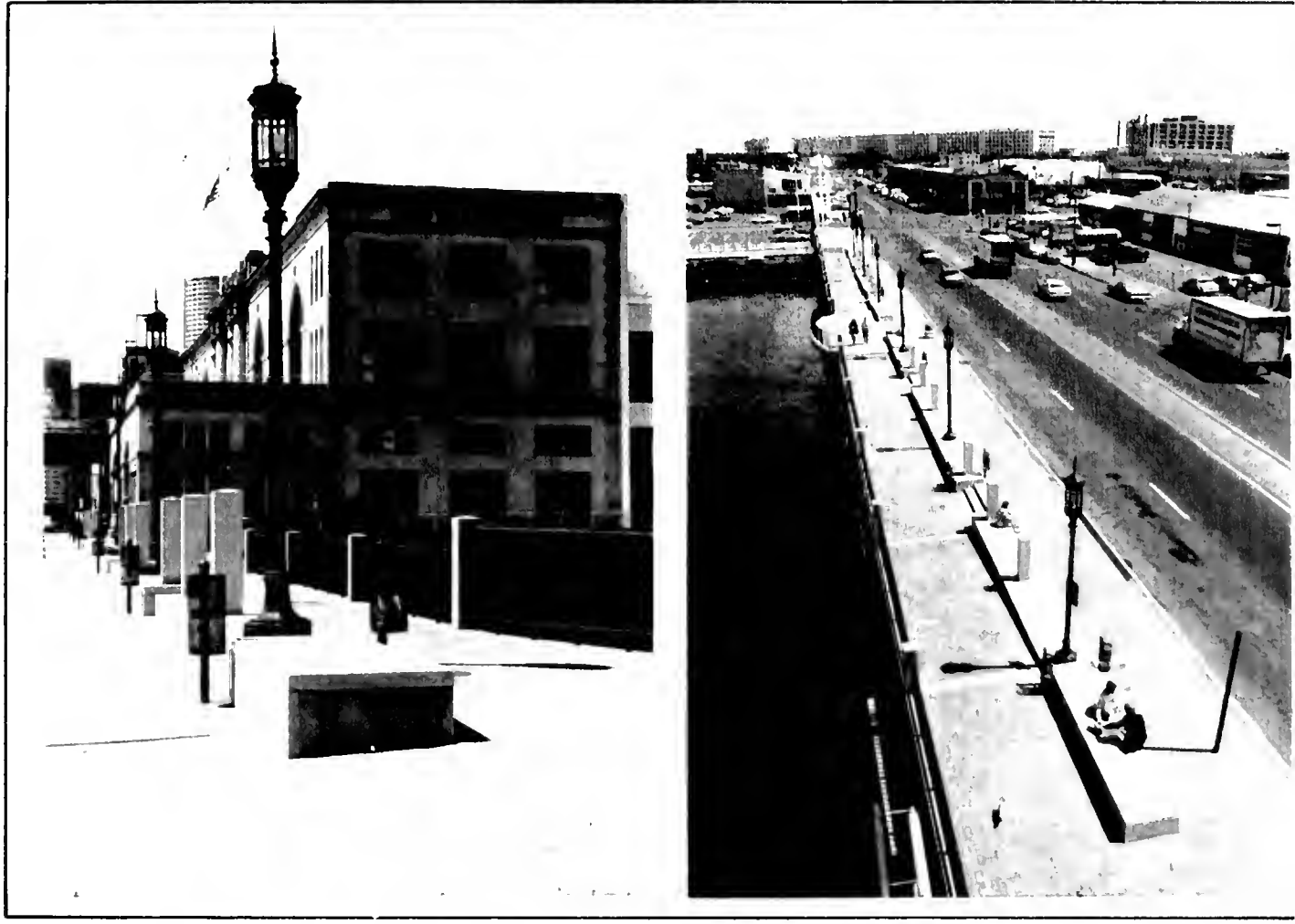
Maguire Group, Inc.
60 First Avenue
Waltham, MA 02254
Mr. Russell Tong, Vice President
(617) 890-0100

HALEY & ALDRICH, INC.

Mr. Raymond Bouchard
Facilities Engineer
South Essex Sewerage District
50 Fort Avenue
Salem, MA
744-4550

Mr. James McCann
Metropolitan District Commission
20 Somerset Street
Boston,MA
727-5274

BRYANT ASSOCIATES, INC



NORTHERN AVENUE RECONSTRUCTION
South Boston, MA

CURLEY MEMORIAL PARK
Boston, MA

BRYANT ASSOCIATES, INC.
Consulting Engineers

Northern Avenue Project
Boston, Massachusetts

Designer/
Howard Goldberg
Bryant Associates, Inc.
Boston, Massachusetts

Project was part of renovation work at the World Trade Center on Northern Avenue. Pavers were utilized to provide color, texture and human scale to heavy traffic areas and for easy maintenance.

Number of pavers used: 178,000

Size of installation: 50,000 sq. ft.

The judges' comments: *"The use of the three materials (wrought iron, granite, pavers) provide a pleasant blending."*

Fourth Annual Concrete Paver Design Competition sponsored by the National Concrete Masonry Association

Special Citation

BRYANT ASSOCIATES, INC.
Consulting Engineers

The Judges: A distinguished panel of judges was assembled to review the 128 entries.

Richard D. Olson, AIA
Ellerbe, Inc.
Tampa, Florida
Chairman of the jury

Dorthy Pautz, ASLA
Hellmuth, Obata & Kassabaum, Inc.
Tampa, Florida

Brian Davis, ASL
Enviro Design
Tampa, Florida

URBAN ROADWAY/HIGHWAY DESIGN

MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS

- Rte. 2 Reconstruction - Lexington/Lincoln, MA - $4.4M

  Widening and upgrading of 1.75 miles of Route 2 to eliminate high accident prone areas and alleviate traffic capacity problems including median barriers and special surface techniques to increase skid resistance.

- Dudley Hill Road Reconstruction - Dudley/Southbridge, MA-$4.5M

  Reconstruction and widening of 4.3 miles of a crosstown connector under the Urban systems program.

- Rte. 106 Reconstruction - Halifax/Plympton/Kingston, MA - $9.0M

  Reconstruction within the county layout of 7.1 miles of Urban Systems roadway including traffic analysis.

- Rte. 128 Add-A-Lane Project, Rte 9 to Rte 24
  Wellesley To Randolph, MA - $95M

  As Subconsultant, provided surveys horizontal and vertical alignment and drainage for addition of a travel lane and shoulder in each direction for 13.7 miles of a presently conjested, 3 travel lane major circumferential highway with improvements to 9 urban arterial interchanges.

MASSACHUSETTS PORT AUTHORITY

- Northern Avenue Reconstruction - Phase I - $2.9M
- Northern Avenue Reconstruction - Phase II/III - $1.9M
  South Boston, MA

  Two separate Prime reconstruction contracts split due to funding and time constraints. Complete reconstruction of approximately 1.4 miles of urban, old waterfront cobble roadway with complete upgrading of utilities in support of present (World Trade Center Boston) and future development in the area. Scenic harbor overlooks with concrete paved sidewalks and historical lighting were incorporated to retain old water from characteristics. Construction administration and inspection was also provided.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

- Reconstruction of Rockville-Alton Road, I-95 to Rte. 91
  Hopkinton, RI - $2.5M
- Reconstruction of Rte. 94, Rte. 6 to Rte. 102
  Foster, RI - $2.5M

  Two separate Prime contracts to reconstruct rural highways (3.5 ± and 4.1 ± miles) to meet current safety standards and increase capacity.

VERMONT AGENCY OF TRANSPORTATION

- o Reconstruction of Route 9, Marlboro, VT - $1.5M
- o Reconstruction of Route 142, Vernon, VT - $1.3M
- o Reconstruction of Route 2, Cabat-Danville, VT - $6.0M
- o Reconstruction of Route 2, Marshfield, VT - $7.0M

Four separate Prime contracts for the reconstruction and widening of 1.4± to 5± miles of rural highways including bridge replacements, hydrological/hydraulic designs, roadway lighting.

- o Chittenden County Circumferential Highway - Sections 3 & 4 Williston/Colchester, VT - $50M

Reconstruction of Section 3 (3.3 miles) and Section 4 (4.2 miles) of Rte. 289, a suburban arterial, with three bridges. Bryant was awarded 2 sections out of 4 as Prime.

NEW YORK DEPARTMENT OF TRANSPORTATION

- o Southern Tier Expressway, Corning, NY - $85M

Prime consultant for Phases I through IV Design services for 2.5 miles of an urban expressway, including two interchange.

- o Taconic State Parkway, Westchester City, NY - $6.2M

Prime Consultant for design of 2.7 mi. of widening, reconstruction and safety improvements.

- o Smith/Seneca Viaduct Reconst., Buffalo, NY - $6.5M

Prime Consultant for design of 1 mile of reconstruction of 2 intersecting arterial streets involving demolition of a 1600 ft. viaduct over an abandoned rail yard, bridge replacement, retaining walls, right-of-way, heavy utilities, and signaligation.

- o Lock St. Bridge Replacement, Phoenix, NY - $20M

As a Prime Subconsultant, Bryant participated in Phases I through IV design services for 1.25± miles of bridge approaches in a suburban area.

- o Saw Mill River Parkway/Cross County Parkway Interchange Reconstruction, Westchester County, NY - $3.2M

Prime Consultant for survey and design of a major urban interchange.

- o Reconstruction of Rte. 62, Niagara Falls Blvd. Buffalo, NY - $30M

Total reconstruction and widening of 3± mile of an urban arterial. As a Subconsultant, Bryant provided total R.O.W. mapping, typical sections, detour roads, bridge removals, signage and pavement markings.

VIRGINIA DEPARTMENT OF HIGHWAYS AND TRANSPORTATION

- Parham-Chippenham Connector, Richmond, VA - $0.25M (Fee)

  Total major widening of 8 miles of suburban highway. Bryant totally responsible for design of 3 miles and for all utility relocations.

- Route 58 Midtown Tunnel, Portsmouth/Norfork, VA $200M

  Bryant responsible for the preliminary design of a major interchange connecting 3 main arterials approaching the new tunnel.

- Route 42 Reconstruction, Harrisonburg, VA - $0.1M (Fee)

  Responsible for the total drainage design for 7 miles of rural highway.

- Rudee Inlet Bridge & Approaches, Virginia Beach, VA - $0.15M (Fee)

  Responsible for 2 miles of approaches for bridge reconstruction in an urban setting.

MAINE DEPARTMENT OF TRANSPORTATION

- Brunswick/Topsham Bypass Study

  Responsible for all aspects of civil engineering such as utility relocations, drainage, and interchange layout.

CITY OF LOWELL, MA - DIVISION OF PLANNING & CAPITAL DEVELOPMENT

- Reconstruction of Pawtucket Blvd., Lowell, MA - $3.6M

  This project includes the reconstruction and relocation of a major city thoroughfare within the existing right-of-way under the Urban Systems program.

CITY OF GARDENER, MA - DEVELOPMENT & PLANNING DEPARTMENT

- Reconstruction of Lower Main Street - $0.5M

  Reconstruction of 2,000 ± L.F. of Main Street including sidewalks, lighting, and landscaping.

TOWN OF WEBSTER, MA - DEVELOPMENT & PLANNING DEPARTMENT

- Reconstruction of Main Street Sidewalks - $0.2M

  Reconstruction of 1600 ± L.F. of downtown sidewalk with street furniture and landscaping.

SITE DEVELOPMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

- Early Site Preparation Contract - Deer Island

  First contract awarded by the MWRA to begin the expansion of the Deer Island Wastewater Treatment Plant and the clean-up of Boston Harbor. As Prime, Bryant Associates will provide design and full construction inspection services. The construction is estimate at $15M and includes a new landfill for 100,000 CY of grit and screening's with a leachate pumping station, demolition of the Fort Dawes Facility, reconfiguring the island by the movement of 1.6M CY of drumlin soils, protection of outfall pipes and utilities, a 21E Hazardous Waste Site Assessment, relocation of access facilities such as roadways, parking lots, security houses, recreational fields major coordination with a House of Correction and other on-going construction, and a waste water pumping station.

- On-Shore Pier Facilities - Quincy Shipyard, Quincy, MA
  - Revere Sugar Site Charlestown, MA

  As Subconsultant, responsible for the Civil/Site Engineering, topographic and hydrographic surveys, for reconstruction and retro-fitting of existing pier facilities into major barge/ferry ports for transportation of equipment, materials and personnel to Deer Island in support of treatment plant upgrade.

MASSACHUSETTS PORT AUTHORITY

- Wharf Rehabilitation - J. F. Moran Container Terminal
- Site Improvements, Expanded Storage Yard - J. F. Moran Container Terminal
- Reconstruction of Hoosac Pier
  Charlestown, MA
- Rehabilitation of the Boston Fish Pier
- Castle Island Container Port
  South Boston, MA

  Subconsultant on five individual contracts for Civil/Site Engineering, Surveys, and Construction Administration for new and reconstructed port facilities. Responsible for preliminary and final design of utilities, drainage, water & sewer systems, access roads, parking facilities and fencing.

- Northern Avenue Parking Lot - South Boston, MA

  A 1700± at grade parking lot on Commonwealth Flats with a sophisticated revenue control system to serve all Massport tenants, primarily the World Trade Center. Future drainage piping was installed ranging from 36" to 60".

MASSACHUSETTS DIVISION OF CAPITAL PLANNING AND OPERATIONS

- o Salem State College Comprehensive Facilities Plan-Salem, MA

  As Subconsultant, responsible for all civil engineering for development program of College's Main and South Campuses, and Athletic Facility.

- o Massachusetts Correctional Institute - Shirley, MA
- o Bristol County Jail and House of Correction - Dartmouth, MA
- o Norfolk County Jail - Dedham, MA

  Three separate contracts as the Subconsultant responsible for civil and site engineering for expansion and new facilities. Complete topographic surveys with utilities was provided for the MCI Shirley project.

- o New Athletic Facility, Fitchburg State College-Fitchburg, MA

  As Subconsultant, provided civil and site engineering services.

ECONOMIC DEVELOPMENT AND INDUSTRIAL CORPORATION OF BOSTON

- o Third Harbor Tunnel Impact Report on Boston's Marine Industrial Park South Boston, MA

  As Prime, formulated an impact assessment report of the Third Harbor Tunnel Project on the Park's tenants with engineers investigations and estimates including the reconstruction of Pier 6 ($5M) and total reconstruction of the Dry Dock No. 3 Facility ($24M) for potential relocation of the General Ship Corporation.

- o Boston Marine Industrial Park Study - South Boston, MA

  As Subconsultant, provided all civil engineering expertise and facility information for development/planning study for park development plans for the next 25 years.

UNITED STATES POSTAL SERVICE

- o Middlesex/Essex General Mail Facility (GMF)-North Reading, MA
- o Worcester Postal Facility - Shrewsbury, MA

  Two separate postal facilities for which Bryant Associates provide the civil and site engineering. The North Reading facility is a 225,000 sq. GMF on a 25± acre site while the Worcester GMF is a 135,000 sq. ft. GMF on an 8± acre site

- o USPS Engineering and Surveying - Southeast MA and RI

  Bryant Associates has been awarded a one year contract to provide the Postal Service engineering and surveys services on an on-call basis for various sites in Southeast Massachusetts and Rhode Island.

- o Site Location Studies - Various New England Locations

  Site location and building development studies for six proposed sites, four in MA and two in VT. Responsible for a combination of site surveying and assessing utility services as a Subconsultant.

UNITED STATES AIR FORCE AND NAVY

- o Personnel Housing - Loring Air Force Base, ME
- o Library/Education Center-Hanscom Air Force Base, Bedford, MA
- o Navy B.O.Q. Building - Newport R.I.
- o Navy Submarine School - New London, CT
- o Enlisted Men's Quarters - Weymouth Naval Air Station, Weymouth, MA

  As Subconsultant, provided the civil/site engineering and surveys for four separate contracts.

BOSTON HOUSING AUTHORITY

- o Archdale Housing Development - West Roxbury, MA
- o West Broadway Housing Development - South Boston, MA

  Two separate contracts as Subconsultant to provide topographic surveys with utilities and civil/site engineering.

EDUCATIONAL INSTITUTIONS

- o Science and Technology Center, Syracuse University - Syracuse, NY
- o Student Dormitories Expansion, University of Lowell - Lowell, MA

  As Subconsultant, provided civil and site engineering services including utilities.

PRIVATE DEVELOPMENT

- o 125 Unit Townhouse Condominium Development - Hingham, MA
- o 175 Unit Townhouse Condominium Development - Braintree, MA

  As Subconsultant, responsible for civil/site engineering, and additionally in Hingham, the topographic surveys.

- Conifer Hill Executive Office Park - Danvers, MA

  Surveying and civil engineering designs for five - 2 story office condominiums and two - 4 story office buildings. Total office area in excess of 200,000 sq. ft.

- Hawthorne Office Park - Danvers, MA

  Surveying and civil engineering design for two - 2 story office buildings totalling 30,000 sq. ft.

RESIDENT INSPECTION

(Normally, all design work includes construction phase services such as periodic site visits, shop drawing review, and change orders)

MASSACHUSETTS PORT AUTHORITY

- Reconstruction of Northern Avenue - Phase I
- Reconstruction of Northern Avenue - Phase II/III
- Northern Avenue Parking Lot
- Northern Avenue/Commonwealth Flats Sanitary Sewer
- Summer Street Pumping Station - 8.3 MGD
  South Boston, MA

  As described previously, BAI also provided full-time resident engineering services for the above contracts.

  All these projects were done concurrently with other Massport projects towards a fixed completion date, the opening of the World Trade Center - Boston, which had severe lease penalties if not done on time.

BOSTON WATER AND SEWER COMMISSION

- East Berkeley St. Interceptor Separation - Contract SD-3
  South End, Boston, MA

  As Subconsultant, provided senior inspectional services for a major combined sewer interceptor separation project followed by full street reconstruction in East Berkeley Street from the Fort Point Channel to Tremont Street. Significant community participation and traffic detouring was also accomplished.

- South Boston Interceptor Trunk Modification

  As Prime, will inspect the cleaning, invert modification and structural repairs to a major South Boston combined sewer interceptor with major diversion of flows.

- Mount Vernon Street Storm Drain - Contract 87-16SD
  Columbia Point, Dorchester, MA

  As Subconsultant, provided inspection of the installation of a 72" drain interceptor with laterals the full length of Mount Vernon Street to a Harbor outfall with surface repairs.

NEW YORK CITY - DEPARTMENT OF ENVIRONMENTAL PROTECTION

- SEQ Projects, Queens, NY

  Provided Resident Engineer and inspectors for sanitary sewer installations at three locations in the Borough of Queens.

MASSACHUSETTS DEPARTMENT OF CORRECTION/DIVISION OF CAPITAL PLANNING AND OPERATIONS

- Roads and Parking Area Improvements - (P79-9)

  As prime, provided Resident Engineering for the reconstruction of access roads and parking facilities with appurtances such as landscaping, lighting and security at ten (10) individually contracted prison sites.

- Mental Health Building, New Bedford, MA

  Provided Clerk-of-the-Works for construction of new mental health facility.

BOSTON PARKS AND RECREATION DEPARTMENT

- Franklin Field Playground Rehabilitation

  Full Prime, resident inspection of park restoration.

CITY OF WORCESTER, MA

- Wastewater Treatment Plant with Interceptors/Laterals

  As Subconsultant, provided supervision of construction of City's WWTP rehabilitation and new interceptor/lateral network installation with full street reconstruction and/or surface repairs.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

- Reconstruction of I-490/I-590 Interchange - Rochester, NY

  As 1 of 4 Prime Consultants, provided construction inspection for a section of a $90,000,000 urban, full interchange known as the "Can-of-Worms". Construction duration is expected to be 4 years.

- I-81 Liverpool Interchange - Syracuse, NY

  As Subconsultant, performed construction inspection services for a $32,000,000 major interchange which included nine bridges and lasted 4.5 years. Approximately 2 million cubic yards of borrow was hauled in and graded on-site.

- Southern Tier Expressway, Section 5M - Salamanca, NY

  As Subconsultant, provided services of Chief Inspector, Inspectors, for a $6,500,000 interchange with double structures over Parkway Drive with extensive excavation including drilling and blasting creating a 400' stepped, rock face.

- Riverside Drive Viaduct Rehabilitation - New York, NY

  As Subconsultant provided assistant office engineer and inspectors for a 75 high elevated, 27 span, arterial over 125th to 135th Streets in the middle of Manhattan. Rehabilitation complicated by protection of historical features.

- Replacement of W. 3rd Street Bridge - Jamestown, NY

  As Prime, inspected the complete replacement of a 1000' ± arterial street bridge over a railroad, road and river.

NEW YORK STATE THRUWAY AUTHORITY

- Thruway Reconstruction - Herkimer County, NY

  As Prime, provide construction inspection for reconstruction of 10 miles of 4 lane divided highway from Milepost 210 to 220.

- Thruway Rehabilitation - Montgomery County, NY
  As a Subconsultant, provided inspection of 13± miles of Thruway rehabilitation from Milepost 167 to 180, worth $10.5M.

- Toll Facility Expansion - Canastota, NY

  As Prime, inspected both highway and toll buildings improvements at Exit 34 toll facility.

- Bridge Replacement - Cuyuga County, NY

  As the Prime Consultant, inspected the replacement of a two lane bridge over the Thruway at Milepost 305 estimated at $1.0M.

- Bridge Painting @ Various Locations

  As Prime, provided paint inspection for seven bridges including miscellaneous steel repairs.

NEW YORK METROPOLITAN TRANSPORTATION AUTHORITY

- Contact Rail Installation (electrification) - Harlem Division
- Station Modernizations - Harlem Division (13 stations)

  Provided senior inspectors for the above projects.

JOHN J. PHILLIPS

Vice President/Project Manager

EDUCATION/REGISTRATION

B.S. - Merrimack College; Civil Engineering
M.B.A. - Western New England College

Registered Professional Engineer in Massachusetts and California

MEMBER: American Society of Civil Engineers
Society of American Military Engineers

EXPERIENCE

Mr. Phillips is a Principal-In-Charge and has extensive and varied experience in highways, urban design, sewer/drain separations, utility relocations, parks and construction management.

Prior to joining Bryant Associates, Mr. Phillips was a Project Manager with a variety of projects at the Massachusetts Port Authority. Such projects included the Logan Airport Satellite Parking Program to construct parking lots exterior to Boston to alleviate the parking and access problems at Logan Airport; the Asbestos Abatement Program for emergency and planned asbestos removal at all Massport facilities; the Tobin Bridge Decking and Painting Study; and the Tobin Bridge Emergency Steel Repairs with coordinated full traffic closures. His primary area of concern was implementing improvement projects for the redevelopment of the Northern Ave./Comm. Flats area of South Boston. These projects consisted of the painting, lighting and misc. repairs to the Viaduct leading into the World Trade Center; the Northern Ave./Comm. Flats Sanitary Sewer; the Summer Street Pumping Station; Northern Avenue Reconstruction - Phase I and Phase II/III; Northern Ave. Parking Lot; the renovation of Comm. Pier into the WTCB; Comm. Pier fender/apron deck rehabilitation for tenant berths with ticket office renovations; re-roofing Bldg. 4 (Jimmy's Harborside) and Bldg 5 (Jimbo's); the Boston Fish Pier Roadway & Parking Improvements and the working apron reconstruction study; and miscellaneous reviews/studies involving operations and development of the area e.g. expansion of the WTCB, DecWorld/QE-II improvements etc.

Previously he was a consulting Project Manager responsible for all aspects of design and construction management for the Boston Redevelopment Authority's North Station Urban Renewal Area which included the preliminary design for $6.8 million of phased roadway reconstruction under Urban Systems and site preparation for the GSA Federal Building with such contracts as the Madison Hotel Demolition, the Interim Detour, and extensive utility relocations.

Concurrently, he was assisting in the design and construction management of contracts within the Boston Redevelopment Authority's South End Project Area, a 600-acre urban renewal project. These included numerous street and park reconstruction contracts and ten constructed, twelve designed EPA-funded sewer separation contracts, and a 500 cfs combined sewer overflow treatment facility for the pollution abatement of Boston Harbor. Simultaneously he was the Chief Resident Engineer for the Boston Water and Sewer Commission's Contract SD-3, a major sewer separation/interceptor construction contract. He also was the project engineer for Pipeline Rehabilitation Contract No. 1 for the City of Fall River, Massachusetts. This consisted of the rehabilitation or replacement of approximately 39,000 linear feet of existing sewer.

A sampling of other projects he has worked on are: Massachusetts Routes 1-190, 25 and 140; Connecticut Routes 1-72 and 1-84; Milford and Bristol, Connecticut Urban Renewal Area; Stratford, Connecticut Treatment Plant; Rocky Hill, North Branford and Naugatuck, Connecticut, Subdivisions; Rocky Hill Drainage Study; Turners Falls and New Bedford, Massachusetts Airports.

From college, Mr. Phillips was an Assistant Highway Engineer for the State of California, Division of Highways in Los Angeles.

GEORGE F. MONAGHAN, JR.

Project Manager / Associate

EDUCATION

Assoc. - Wentworth Institute; Architectural Engineering

B.S. - Roger Williams College; Construction Engineering

EXPERIENCE:

Mr. Monaghan recently joined the firm of Bryant Associates, Inc. after sixteen years of continuous service with a major New England consulting engineering firm, as a Principal Engineer in their RI and MA offices. He was responsible for urban renewal projects; highway, secondary roadway, highway safety improvements, wrong-way signing, railroad grade crossing elimination and multi-phased urban redevelopment projects; water main replacement and water main leak detection programs; a high service water system demand and distribution study; 27 inch aerial sewer rehabilitation study; major utility coordination efforts for Subway projects; EPA Construction Grant Sewer Separation projects; and Inflow/Infiltration Surveys.

Mr. Monaghan was responsible for the preparation of Contract Documents for the Crowell Street Water Main Replacement Contract and the City-wide Water Main Leak Detection Program for the Pawtucket Water Supply Board. On the RIDOT Memorial Boulevard Extension (MBE)/Providence River Relocation Project, and the adjacent Capital Center Project, Mr. Monaghan's responsibilities included the coordination, layout, design and phasing of all public and private utility system relocation and improvement efforts associated with the relocation of the Woonasquatucket and Moshassuck Rivers, demolition of existing bridges, and construction of new roadway and utility/pedestrian bridges, river walls, and two and four-lane urban roadway systems. He also prepared US Army COE, RI Coastal Resources Management Council, and US Coast Guard Permit Applications for the MBE/River Relocation Project.

On the Capital Center Project, a multi-phased urban redevelopment project in Providence, Mr. Monaghan assisted with the later phases of design and oversaw the preparation of final bid documents for Capital Center Contract 3, which included new, relocated and temporary bypass road construction; bridge and wall construction; and building, bridge and railroad embankment demolition. Mr. Monaghan's responsibilities included coordination with the various private utility companies, public agencies, private developers with on-going construction adjacent to the project, and the RI Board of Health and Department of Environmental Management.

Concurrently, Mr. Monaghan also developed and estimated alternate rehabilitation and flow-bypass proposals for restoration of an existing 27 inch steel aerial interceptor sewer for East Providence.

In Massachusetts Mr. Monaghan was associated exclusively with Boston projects primarily in the 600 acre South End Urban Renewal Area acting as Assistant Project Manager. His assignments included the design and preparation of plans, specifications and estimates for infrastructure repair and replacement contracts such as street and park reconstructions and especially sewer separation contracts, which work developed into the initial 1977 City of Boston South End EPA Grant Program for the construction of eleven sewer separation contracts totaling $19,000,000.

As part of the South End EPA Grant Program, Mr. Monaghan assisted in the preparation of the initial 1975 EPA Facilities Plan for the construction of the above referenced eleven sewer separation contracts, and prepared the 1977 South End Facilities Plan Supplement for the balance of the remaining thirteen contracts of the South End Improvements Program. During this period he supervised the design, inspection and final report preparation of two sewer inspection contracts. He also prepared five BRA/Boston Water and Sewer Commission EPA Grant Applications, for the design replacement of the Boston Main Interceptor; for design / construction of the South End Pollution Abatement and Flood Control Facility; for construction of the referenced eleven sewer separation contracts; and for design of the remaining thirteen Sewer Separation Contracts SD-6 through SD-18.

During the design phase of South End Contracts SD-6 through SD-18, Mr. Monaghan assisted with interagency coordination and preparation of the overall design criteria, final design summaries, and plans and specifications for the thirteen sewer separation contracts. He himself was responsible for the overall layout and design of three of the thirteen contracts which included relocation of water mains, and traffic signal and street lighting systems; and for the hydraulic design of ten of the thirteen contracts.

At the same time, Mr. Monaghan also prepared recommendations for utility coordination and relocations required for the design of MBTA Vent Shaft Projects R-11, R-16 and R-17 and reviewed public and private utility proposals for the South End Area for correlation with existing and proposed BRA South End Improvements.

Earlier in his career, Mr. Monaghan also assisted in the preparation and data collection for Inflow/Infiltration Surveys for Taunton, MA and Westerly, RI and with the design, estimating and drafting supervision of the following projects:

- RIDOT Interstate Highway Safety Improvements - Phase 2 Wrong-Way Signing and Alignment Modifications;
- RIDOT I-95 Interstate Highway Safety Improvements, Connecticut State Line to the Massachusetts State Line;
- RIDOT I-195 Interstate Highway Safety Improvements, I-95 to the Massachusetts State Line;
- RIDOT Railroad Grade Crossing Elimination, Warwick, Rhode Island; and
- Hanscom Field Roadway Modifications, Bedford, Massachusetts

A. HOWARD SMITH, JR.

Engineer

EDUCATION/REGISTRATION

B.S.C.E. - Northeastern University

Registered Professional Engineer in the Commonwealth of Massachusetts
Mass. P.E. #29498

MEMBER: American Society of Civil Engineers
Boston Society of Civil Engineers

EXPERIENCE

Mr. Smith's career spans more than 15 years in the field of transportation design. He has participated in the design of the horizontal and vertical alignment, drainage, water mains, sanitary sewers, cost estimates, and specifications for roadway and transit projects.

Since joining Bryant Associates, he has been engineer on various projects including the design of the relocation and support of utilities including a 48" water main and the surface grading for the Platform Extension of the Central MBTA Central Station; the horizontal and vertical alignment, drainage, estimate, specification and plan preparation for the reconstruction of Northern Avenue; the design of the surface drainage systems for Route 34 Frontage Road in New Haven, CT and Quioccasin Road Extension Henrico County, VA.

Prior to joining Bryant Associates he worked on the MBTA Southwest Corridor Project doing the track drainage for Section II, the hydraulic and civil design for the relocation of the Stony Brook under the corridor, the inflow hydrograph to the main track drain pump station, and assisting the preparation of specifications and estimate for the various construction contracts; the reconstruction of the Massachusetts Avenue Interchange on Route I-93 doing the civil design and overseeing its drafting into contract plans; assisting in preparing the vertical alignment including roadway and infield grading for Route I-190 Sterling - Lancaster.

He has also worked on several preliminary design projects for interstate highways in Connecticut, the design of commuter parking lot, TOPICS project, location/impact studies for several highway, and FEMA (Flood Insurance Studies).

RICARDO M. WILSON

Project Engineer

EDUCATION/REGISTRATION

Syracuse University - Civil Engineering

EXPERIENCE

Mr. Wilson's experience includes preliminary and final design of extensive sanitary, storm and combined sewer systems for suburban and metropolitan areas, utilities, horizontal alignment, vertical alignment, drainage and grading for major projects ranging from interstate highways and interchanges to complex parking facilities and site development. He has also been involved in the design of pump stations and storm water storage facilities.

Experience also includes estimating and daily monitoring of construction progress. Inspection survey, infiltration and exfiltration studies of existing sanitary and storm drain facilities and subsequent recommendations for capital improvement projects for a large metropolitan area. Site development including proposed layout, survey, drainage and grading for proposed subdivisions for suburban areas.

REPRESENTATIVE PROJECTS:

- Design of the rehabilitation of sections of the Taconic and Saw Mill River Parkway, Westchester County, New York.
- Expansion of the Baltimore-Washington International Airport parking facilities.
- Expansion and improvements to major heavy rail transit facilities on Long Island and in Westchester County, New York.
- Urban system improvements, grading, drainage and widening of Pawtucket Boulevard, Lowell, MA.
- Comprehensive and highly complex drainage design of a $40 million section of Interstate I-91 including 2 major interchanges in the City of Hartford, Connecticut.
- Drainage design and grading for a section of Route 9 in Marlboro, Vermont.

NORMAN I. LIPSITZ

Associate/Chief of Surveys

EDUCATION/REGISTRATION

A. E. Wentworth Institute

Registered Land Surveyor in the States of Massachusetts, Rhode Island and Connecticut

MEMBER: American Congress on Surveying and Mapping
Massachusetts Association of Land Surveyors
and Civil Engineers

EXPERIENCE

Mr. Lipsitz's professional career spans more than 20 years of experience in all phases of land surveying.

At Bryant Associates, Inc., Mr. Lipsitz is the Chief Surveyor responsible for all field survey personnel, deed research, calculations, preparation of right-of-way drawings, property plans and related surveying requirements associated with various projects undertaken by the firm. Recent projects under his direction include the surveys for the North Section of the Central Artery for the Massachusetts Department of Public Works, the Columbia Point Housing Improvements for the development team, the North Station Improvement Project for the Massachusetts Bay Transportation Authority and several private development projects.

Mr. Lipsitz supervises the activities of Bryant Associates five (5) survey parties, including scheduling, coordinating the reduction of field notes and plotting of the field information.

Prior to joining Bryant Associates, Inc., Mr. Lipsitz was responsible for the surveying for the Southwest Corridor Project (Orange Line Relocation) for the Massachusetts Bay Transportation Authority. This involved surveying of existing conditions, surveying of property lines for the proposed takings and preparation of all right-of-way drawings required.

HERBERT D. ANDERSON, JR.

Assistant Chief of Surveys

EDUCATION/REGISTRATION

Various courses on Surveying at Franklin and Wentworth Institutes, Palm Beach Junior College, Massachusetts School of Survey and North Shore Community College

Northeastern University - Center for Continuing Education,
Building Technology Program
Faculty Member Teaching Survey I & II

Certificate of Continuing Education and Professional Development - New England Section ACSM

Surveyor of the Year (1988) - New England Section ACSM

Licensed Construction Supervisor - Massachusetts

MEMBER: American Congress on Surveying and Mapping (ACSM)
New England Section - ACSM
National Society of Professional Surveyors
Eastern Massachusetts Association of Land Surveyors and Civil Engineers

EXPERIENCE

Mr. Anderson has been with Bryant Associates since 1985 working on diverse surveying projects. Besides being responsible for selected field surveys, Mr. Anderson primarily assists in the research, office calculations, and project assignments in support of five full-time survey parties.

He has over 29 years of experience in the surveying field in the office and in the field as a Party Chief working with engineering and surveying firms in Massachusetts and Florida. He has performed all types and levels of surveys including property, Land Court, mortgage, flood insurance, subdivision, topographic, aerial photo control, and both horizontal and vertical construction. A small sampling of the projects he has worked on includes the ongoing R.O.W. and property takings for the MDPW's Central Artery North Area Project and the MBTA's Bowdoin Connector in Cambridge; the recent topographic survey of 12 parks for the MDEM's Olmsted Historical Landscape Preservation Program; the property and building layout for the Hotel Sonesta in Cambridge; the perimeter and topographic surveys, and construction control for the Lynn Water Treatment Plant; topographic survey of the Massachusetts State House Grounds; and the Land Court survey of Harbor Point, formerly Columbia Point.

Prior to his association with Bryant, Mr. Anderson was responsible for such projects as the construction layout of Center Plaza in Boston; property surveys for General Electric River Works in Lynn, MA; the layout of a 2500 car, curve-linear parking garage and three buildings in Worcester Center, MA; and the complete boundary and construction layout of Worcester Center (20 ± acres) including footing, column, and interior wall layouts.

BRIAN P. ROONEY

Senior Technician/Chief of Party/Construction Inspector

EDUCATION

Franklin Institute - Civil Engineering Program
Northeastern University - Pursuing Associates in Science Degree

EXPERIENCE

Mr. Rooney has worked for Bryant Associates for over 10 years, starting in surveys as a rodman, progressing through instrumentman, and becoming a party chief with over two and one-half years experience. During this time he worked in all aspects of surveys including topographic, utility, aerial photography, layout and control in support of various design and construction projects and the preparation of as-builts.

A sampling of design related surveys accomplished include the Northeast Corridor and Old Colony railroads for horizontal and vertical control; control for the aerial photography of the I-84/I-91 Interchange and I-291 in Hartford with utility investigations and subsequent field edits; topographic and structure (e.g. platforms & vent-shafts) for various MBTA Subway and Trolley projects; topographic, utility and property line surveys for various parks such as Franklin Park and James Michael Curley Memorial Park; and topographic/utilities survey for the Milford Sewer Installations and the Northern Avenue/Summer Street area.

Mr. Rooney has also performed many construction layouts such as those for the Four Seasons Hotel, Exchange Place, MCI Norfolk and Suffolk, and for the reconstruction of the I-84/I-91 Interchange and I-291 in Hartford. During this type of work, he became very familiar with construction observation techniques.

In addition, he has also verified installations and prepared "as-built" record drawings on projects like the Conifer Hill Office Park, a 5-buildings with 15 units, 2 multi-story; multi-office buildings, and parking garage complex in Danvers, MA.

Presently, Mr. Rooney is performing office calculations in support of the field crews from note reduction to coordinating property lines, buildings, railroad tracks and sewer/drain layouts.

Prior to joining Bryant Associates, Mr. Rooney was involved in the survey of I-95 from Danvers to New Hampshire and the Rte.128/Rte. 3 Interchange in Braintree.

LEROY W. LINDELL, JR.

Construction Inspector

REGISTRATION

Licensed Class "A" Field Concrete Inspector - Mass. State Building Code Commission.

EXPERIENCE

Mr. Lindell has more than nineteen years experience in the field of construction inspection. He has served in the capacity of Clerk-of-the-Works and Resident Inspector for sanitary sewer and drainage systems, wastewater treatment facilities, pumping stations, street systems, and other civil projects throughout Massachusetts.

Mr. Lindell, as Senior Inspector, is presently observing the construction of several miles of large diameter sewers in Worcester which include jacking and tunneling components. He recently completed a similar project in Boston's South End. This East Berkleley Street project also included installation of large sanitary and drain interceptors with laterals, tide gate structures, manholes and catch basins with total street reconstruction. Prior to this, Mr. Lindell inspected several projects in the South Boston waterfront which included an 8.3 MGD sanitary pumping station, a pile-supported sanitary sewer interceptor, two major street reconstruction contracts with full utility upgrades, and a 1700± car parking lot with drainage, lighting, and an advanced revenue control system.

Prior to joining Bryant Associates he was employed by large consulting engineering firms which specialized in the design of large environmental projects wherein his field experience included the inspection of construction of large diameter conduits and triple barrel conduits.

STANDARD FORM (SF)

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Architect-Engineer and Related Services Questionnaire

Bryant Associates, Inc.
648 Beacon Street
P.O. Box 38 - Kenmore Station
Boston, MA 02215-0038

1a. Submittal is for ☐ Parent Company ☐ Branch or Subsidiary Office

Established:	3. Date Prepared:
1976	November 1987

4. Specify type of ownership *and* check below, if applicable

Corporation

	A. Small Business
x	B. Small Disadvantaged Business (minority)
	C. Woman-owned Business

5. Name of Parent Company, if any:
N/A

5a. Former Parent Company Name(s), if any, and Year(s) Established:

6. Names of not more than Two Principals to Contact: Title / Telephone
1) Jack D. Bryant, President & Treasurer
2) Howard Goldberg, Vice President

7. Present Offices: City / State / Telephone / No. Personnel Each Office

7a. Total Personnel 72

648 Beacon Street P.O. Box 38 - Kenmore Station Boston, MA 02215-0038	(Home Office)	617-247-1800	48 Persons
217 South Salina Street Suite 510 Syracuse, NY 13202	(Branch Office)	315-479-7565	24 Persons

8. Personnel by Discipline: *(List each person only once, by primary function.)*

7	Administrative		Electrical Engineers		Oceanographers	6	Technicians
	Architects	1	Estimators		Planners: Urban/Regional		
	Chemical Engineers		Geologists	1	Sanitary Engineers		
14	Civil Engineers		Hydrologists		Soils Engineers		
12	Construction Inspectors		Interior Designers	1	Specification Writers		
13	Draftsmen		Landscape Architects	1	Structural Engineers		
	Ecologists		Mechanical Engineers	15	Surveyors		
	Economists		Mining Engineers	1	Transportation Engineers	72	Total

9. Summary of Professional Services Fees Received: (Insert index number)

Last 5 Years (most recent year first)

	1986	1985	1984	1983	1982
Direct Federal contract work, including overseas	1	1	1	1	1
All other domestic work	6	6	6	5	5
All other foreign work*					

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

INDEX
1 Less than $100,000
2 $100,000 to $250,000
3 $250,000 to $500,000
4 $500,000 to $1 million
5 $1 million to $2 million
6 $2 million to $5 million
7 $5 million to $10 million
8 $10 million or greater

Experience Profile Code Numbers for use with questions 10 and 11

001 Acoustics; Noise Abatement
002 Aerial Photogrammetry
003 Agricultural Development; Grain Storage; Farm Mechanization
004 Air Pollution Control
005 Airports; Navaids; Airport Lighting; Aircraft Fueling
006 Airports; Terminals & Hangars; Freight Handling
007 Arctic Facilities
008 Auditoriums & Theatres
009 Automation; Controls; Instrumentation
010 Barracks; Dormitories
* 011 Bridges
012 Cemeteries *(Planning & Relocation)*
013 Chemical Processing & Storage
014 Churches; Chapels
015 Codes; Standards; Ordinances
016 Cold Storage; Refrigeration; Fast Freeze
017 Commercial Buildings *(low rise);* Shopping Centers
018 Communications Systems; TV; Microwave
019 Computer Facilities; Computer Service
020 Conservation and Resource Management
* 021 Construction Management
022 Corrosion Control; Cathodic Protection; Electrolysis
** 023 Cost Estimating
024 Dams *(Concrete; Arch)*
025 Dams *(Earth; Rock);* Dikes; Levees
026 Desalinization *(Process & Facilities)*
027 Dining Halls; Clubs; Restaurants
028 Ecological & Archeological Investigations
029 Educational Facilities; Classrooms
030 Electronics
031 Elevators; Escalators; People-Movers
032 Energy Conservation; New Energy Sources
033 Environmental Impact Studies, Assessments or Statements
034 Fallout Shelters; Blast-Resistant Design
035 Field Houses; Gyms; Stadiums
036 Fire Protection
037 Fisheries; Fish Ladders
038 Forestry & Forest Products
039 Garages; Vehicle Maintenance Facilities; Parking Decks
040 Gas Systems *(Propane, Natural, Etc.)*
042 Harbors; Jetties; Piers; Ship Terminal Facilities
043 Heating; Ventilating; Air Conditioning
044 Health Systems Planning
045 Highrise; Air-Rights-Type Buildings
* 046 Highways; Streets; Airfield Paving; Parking Lots
047 Historical Preservation
048 Hospital & Medical Facilities
049 Hotels; Models
050 Housing *(Residential, Multi-Family; Apartments; Condominiums)*
051 Hydraulics & Pneumatics
052 Industrial Buildings; Manufacturing Plants
053 Industrial Processes; Quality Control
054 Industrial Waste Treatment
055 Interior Design; Space Planning
056 Irrigation; Drainage
057 Judicial and Courtroom Facilities
058 Laboratories; Medical Research Facilities
059 Landscape Architecture
060 Libraries; Museums; Galleries
061 Lighting *(Interiors; Display; Theatre, Etc.)*
062 Lighting *(Exteriors; Streets; Memorials; Athletic Fields, Etc.)*
063 Materials Handling Systems; Conveyors; Sorters
064 Metallurgy
065 Microclimatology; Tropical Engineering
066 Military Design Standards
067 Mining & Mineralogy
068 Missile Facilities *(Silos; Fuels; Transport)*
069 Modular Systems Design; Pre-Fabricated Structures or Components
070 Naval Architecture; Off-Shore Platforms
071 Nuclear Facilities; Nuclear Shielding
072 Office Buildings; Industrial Parks
073 Oceanographic Engineering
074 Ordnance; Munitions; Special Weapons
075 Petroleum Exploration; Refining
076 Petroleum and Fuel *(Storage and Distribution)*
077 Pipelines *(Cross-Country--Liquid & Gas)*
078 Planning *(Community, Regional, Areawide and State)*
* 079 Planning *(Site, Installation, and Project)*
080 Plumbing & Piping Design
081 Pneumatic Structures; Air-Support Buildings
082 Postal Facilities
083 Power Generation, Transmission, Distribution
084 Prisons & Correctional Facilities
086 Radar; Sonar; Radio & Radar Telescopes
* 087 Railroad; Rapid Transit
* 088 Recreation Facilities *(Parks, Marinas, Etc.)*
* 089 Rehabilitation *(Buildings; Structures; Facilities)*
090 Resource Recovery; Recycling
091 Radio Frequency Systems & Shieldings
092 Rivers; Canals; Waterways; Flood Control
093 Safety Engineering; Accident Studies; OSHA Studies
094 Security Systems; Intruder & Smoke Detection
095 Seismic Designs & Studies
* 096 Sewage Collection, Treatment and Disposal
097 Soils & Geologic Studies; Foundations
098 Solar Energy Utilization
099 Solid Wastes; Incineration; Land Fill
100 Special Environments; Clean Rooms, Etc.
101 Structural Design; Special Structures
* 102 Surveying; Platting; Mapping; Flood Plain Studies
103 Swimming Pools
104 Storm Water Handling & Facilities
105 Telephone Systems *(Rural; Mobile; Intercom, Etc.)*
106 Testing & Inspection Services
107 Traffic & Transportation Engineering
108 Towers *(Self-Supporting & Guyed Systems)*
109 Tunnels & Subways
* 110 Urban Renewals; Community Development
111 Utilities *(Gas & Steam)*
112 Value Analysis; Life-Cycle Costing
113 Warehouses & Depots
114 Water Resources; Hydrology; Ground Water
* 115 Water Supply, Treatment and Distribution
116 Wind Tunnels; Research/Testing Facilities Design
117 Zoning; Land Use Studies
201 _____
202 _____
* 203 Site Engineering
204 _____
205 _____

** All design projects estimated in-house

10. Profile of Firm's Project Experience, Last 5 Years Note: 023- All design projects estimated in-house.

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 011	2	255	11)			21)		
2) 021	22	3,335	12)			22)		
3)			13) 079	3	19	23)		
4)			14) 087	10	594	24)		
5)			15)			25) 104	4	67
6) 046	28	2,890	16) 088	5	206	26) 110	4	25
7)			17) 096	31	400	27) 115	3	30
8)			18)			28) 203	27	790
9)			19)			29)		
10)			20) 102	142	6,117	30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
011	C	1 Raymond Baldwin Bridge (I-95) Proposed Conn Dot Project 105-130 Old Saybrook-Old Lyme, Connecticut	Connecticut Dept. of Transportation 24 Wolcott Hill Road Wethersfield, Connecticut	30,000	1986
021	P	2 Northern Ave/Comm. Flats S.S. Interceptor Summer Street S.S. Pumping Station South Boston, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	4,450	1986
021	P	3 Expansion of Toll Facilities, Inter. No. 34 New York State Thruway Canastota, New York	New York State Thruway Authority 200 Southern Boulevard Albany, New York	200	1986
021	C	4 Rehab. of Riverside Drive Viaduct 125th - 135th Streets New York City, New York	New York State Dept. of Trans. 1220 Washington Avenue Albany, New York	37,000	1986
021	C	5 East Berkeley St. Interceptor Separation w/ Street Reconstruction- Contract SD-3 South End, Boston, Massachusetts	Boston Water & Sewer Commission 10 Post Office Square Boston, Massachusetts	5,000	1987
046	P	6 Southern Tier Expressway, Route 17 Preliminary Design Corning, New York	New York State Dept. of Trans 1220 Washington Avenue Albany, New York	60,000	1988
046	P	7 Reconstruction of Pawtucket Boulevard 1.5±miles - Urban Highway Lowell, Massachusetts	City of Lowell John F. Kennedy Civic Center Lowell, Massachusetts	3,600	1988

046	C	8 Interstate 291- 2±mi.-Highway & Bridge, new South Windsor, Connecticut	Connecticut Dept. of Transportation 24 Wolcott Hill Road Wethersfield, Connecticut	18,000	1988
046	P	9 Rte 2 Widening & Safety Improvements 2± miles - Highway Reconstruction Lexington/Concord, Massachusetts	Massachusetts Dept. of Public Works Ten Park Plaza Boston, Massachusetts	4,400	1988
046	P	10 Northern Ave. Reconst.-Phase I&II/III 1.5± mi.-Urban waterfront w/ const. inspection South Boston, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	4,335	1986
046	P	11 Rockville-Alton Rd. Reconstruction 3.2± miles-Rural Highway Hopkinton, Rhode Island	Rhode Island Dept. of Transp. State Office Building Providence, Rhode Island	2,500	1988
046	P	12 Route 2 Reconstruction 4.5± miles of highway reconstruction Cabot/Danville, Vermont	Vermont Agency of Transp. State Office Building Montpelier, Vermont	5,200	1986
079	P	13 Boston Fish Pier Facility Study Northern Avenue South Boston, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, MA	(Fee)[10]	1983
087	C	14 Design Section N760 Rapid Transit Reconstruction Atlanta, Georgia	Metropolitan Atlanta Rapid Transit Authority Peachtree Centre Atlanta, Georgia	25,000	1986
087	C	15 Systemwide Track Improvement Program Track, Signalization etc. @ various areas Boston Metropolitan Area, MA	Mass. Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	40,000	1985
088	P	16 Franklin Field Playground/Park Athletic Fields, children's playlots, etc. Boston, Massachusetts	Boston Park & Recreation Dept. 294 Washington Street Boston, Massachusetts	200	1983
096	C	17 Milford Sewer System Rehabilitation T.V. Inspection, cleaning & repair Milford, MA	Town of Milford Milford, Massachusetts	50	1982
096	C	18 Wastewater Treatment Plant Operations and Maintenance Manual Windsor Locks, Connecticut	Town of Windsor Locks Windsor Locks, Connecticut	(Fee) 44	1983
096	C	19 Deer Island Treatment Facilities Plan Winthrop, Massachusetts	Mass. Water Resources Authority Charlestown Navy Yard Boston, Massachusetts	31 (Fee)	1987

102	C	I-84/I-91 Interchange Topographic & Bridge Surveys Hartford, Connecticut	Connecticut Dept. of Trans. 24 Wolcott Hill Road Wethersfield, Connecticut	(Fee) 330	1984
102	C	21 Central Artery-North Area Topographic & R.O.W. Charlestown, Massachusetts	Mass. Dept. of Public Works Ten Park Plaza Boston, Massachusetts	(Fee) 370	1987
102	C	22 Old Colony Railroad Rehabilitation Topographic, Hydrographic, Takings, R.O.W., etc. Various Commuter RR. branches (4)	Mass. Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	100,000 (Fee) 800	1990
102	C	23 Bowdoin/Charles Conn.-Red Line Topographic, Utilities & Tunnel & R.O.W. Boston, Massachusetts	Mass. Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	(Fee) 189	1987
102	P	24 Annual Survey Services per Work Order Location, Invert, Easements, R.O.W. Eastern Massachusetts	Mass. Water Resources Authority Charlestown Navy Yard Boston, Massachusetts	50 (Fee)	1987
104	C	25 Moran Containerport Expansion Drainage and Utilities Chelsea, Massachusetts	Massachusetts Port Authority Ten Park Plaza Boston, Massachusetts	8,800	1987
110	P	26 One Franklin Place Downtown High Rise Development Boston, Massachusetts	Lincoln Property Company 265 Franklin Street Boston, Massachusetts	75,000	1985
115	P	27 Slater Street Water Main 4500± L.F. of up to 12" water mains Webster, Massachusetts	Town of Webster Office of Community Development, P.O. Box #207 Webster, MA	190	1985
203	P	28 Hingham Condominium Development 106 Lot Subdivision-All Site Work Hingham, Massachusetts	Patrick F. Walsh Co. 110 West Squantum Street No. Quincy, Massachusetts	30,000	1987
203	C	29 JFK/Univ. of Mass. Red Line Station Survey, Grading & drainage, water & sewer Boston, Massachusetts	Mass. Bay Transportation Authority Ten Park Plaza Boston, Massachusetts	16,000	1986
203	C	30 Bristol County Jail/House of Corrections- Grading, drainage, water & sewer Dartmouth, Massachusetts	Mass. Dir. of Capital Planning & Operations One Ashburton Place Boston, Massachusetts	80 (Fee)	1987

12. The foregoing is a statement of facts

Signature: Jack D. Bryant Typed Name and Title: Jack D. Bryant, President

Date: 11/2/87

☆ U.S. GOVERNMENT PRINTING OFFICE : 1984 O - 421-526 (22)

STANDARD FORM (SF) **255**
Architect-Engineer Related Services for Specific Project

1. Project Name / Location for which Firm is Filing:

SOUTH END URBAN RENEWAL AREA
SHAWMUT AVENUE, UPTON TO EAST BERKLEY STREETS

2a. ***Commerce Business Daily*** Announcement Date, If any:

2b. Agency Identification Number, if any:

3. Firm (or Joint-Venture) Name & Address

Bryant Associates, Inc.
648 Beacon Street
P.O. Box 38
Boston, MA 02215-0038

3a. Name, Title & Telephone Number of Principal to Contact

Jack D. Bryant, President
(617) 247-1800

3b. Address of office to perform work, if different from Item 3

Same

4. Personnel by Discipline:

7 Administrative	___ Electrical Engineers	___ Oceanographers	6 Technicians
___ Architects	1 Estimators	___ Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	1 Sanitary Engineers	___
14 Civil Engineers	___ Hydrologists	___ Soils Engineers	___
12 Construction Inspectors	___ Interior Designers	1 Specification Writers	___
13 Draftsmen	___ Landscape Architects	1 Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	15 Surveyors	___
___ Economists	___ Mining Engineers	1 Transportation Engineers	72 Total Personnel

5. If submittal is by Joint-Venture list participating firms and outline specific areas of responsibility (Including administrative, technical and financial) for each firm (Attach SF 254 for each if not on file with Procuring Office.)

5a. Has this Joint-Venture previously worked together? ☐ yes ☐ no

Standard Form 255 July 1975
Prescribed By GSA Fed. Proc. Reg. (41 CFR) 1-16.803

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title:

Jack D. Bryant, President

b. Project Assignment:

c. Name of Firm with which associated:

Bryant Associates

d. Years experience: With This Firm 10 **With Other Firms** 25

e. Education: Degree(s) / Year / Specialization

University of Michigan BSCE/1951/Highways & Structures
Northeastern University MSCE/1976/Engineering Management

f. Active Registration: Year First Registered/Discipline

1959, New York/Professional Engineer
PA, MA, RI, CT, IL, DC, MD, FL, GA

g. Other Experience and Qualifications relevant to the proposed project: As founder of Bryant Associates, Mr. Bryant has over twenty years of diversified civil engineering experience, holding position of major responsibility on various airport, seaport, railroad, environmental and highway projects both within the United States and overseas. As president of Bryant Associates, he has overall responsibility for the firm management including business development, contract negotiations, financial planning and other engineering services activities.

He has been principal in charge for some complex projects such as the survey management of Northeast Corridor Improvement Program from Boston, MA to New Haven, CT, the rehabilitation of the Everett Maintenance Yard Facility for the MBTA in MA, and the rehabilitation of 4 miles of the Taconic State Parkway in New York. He has been responsible for the design of farm-to-market roads in foreign countries and of multi-million dollar urban and rural highways, toll roads and expressways in the U. S. and Canada

a. Name & Title:

John I. Crawford

b. Project Assignment:

Senior Vice President

c. Name of Firm with which associated:

Bryant Associates

d. Years experience: With This Firm 6 **With Other Firms** 28

e. Education: Degree(s) / Year / Specialization

Purdue University, B.S.C.E./1951/Civil Engineering

f. Active Registration: Year First Registered/Discipline

1958, New York, Professional Engineer
IN, PA, CT, MA, NH, MD, NJ, FL, VA, VT

g. Other Experience and Qualifications relevant to the proposed project: Mr. Crawford's experience includes design & construction projects throughout the northeastern & midwestern U.S. He has been responsible for the design of highways as complex as Interstate Rts. in the White Mts. of NH & the Adirondack Mts. of NY to urban expressways in the central business districts of large metro. cities. He has organized & supervised the team concept for project development & has been directly responsible for their on time & on-budget performance. His background includes Rt. 34 in New Haven, CT, 30+ miles of Rt. location studies for the reconstruction of Rt. U.S. 9 Groton to NY City, feasibility studies for the location of I-93 thru Franconia Notch, NH & the design of new locations, widenings, reconstruction & rehabilitation of highways throughout the northeast.

Mr. Crawford is VP and Manager of Bryant Associate's Syracuse, NY Office.

a Name & Title:

John J. Phillips, Vice President

b. Project Assignment

Project Manager

c. Name of Firm with which associated.

Bryant Associates

d Years experience: With This Firm 1 With Other Firms 18

e Education Degree(s) / Year / Specialization

Merimack College, B.S.C.E./1969/Civil Engineering
Western New England College, M.B.A./1978/Business

f Active Registration: Year First Registered/Discipline

1972 California/Professional Engineer
Massachusetts

g Other Experience and Qualifications relevant to the proposed project

Mr. Phillips has varied experience in both rural and urban highway design. Among his projects, he is currently working on the Reconst. of Rte. 94 (4+ mi) in Foster, R.I. and the Reconst. of Lower Main St. in Gardner, MA. Prior to joining BAI, Mr. Phillips was a Proj. Mgr. with a variety of projects at the Mass. Port Authority. Primarily he was implementing redevelopment projects for the Northern Ave./Comm. Flats area of So. Boston such as the Northern Ave. Reconst. - Ph. I and Ph. II/III; Northern Ave. Parking Lot; and the Boston Fish Pier Roadway & Parking Improvements. Prior to, he was a consulting Proj. Mgr. responsible for design and construction management for the Boston Redevelopment Authority's North Station and South End (partial) Urban Renewal Areas which included roadways, sewers and parks. Other projects: Mass. Rtes. I-190, 25 and 140; and Conn. Rtes. I-72 and I-84. From college, he was an Asst. Hwy. Engr. for the Calif. Div. of Hwys., in L. A.

a. Name & Title:

Norman I. Lipsitz, Associate

b. Project Assignment:

Chief of Surveys

c. Name of Firm with which associated

Bryant Associates

d Years experience With This Firm 3 With Other Firms 18

e. Education Degree(s) / Year / Specialization

Associates Degree in Civil Engineering
Lincoln Institute - 1967

f. Active Registration Year First Registered/Discipline

Land Surveyor - Massachusetts, Rhode Island, Connecticut

g. Other Experience and Qualifications relevant to the proposed project:

As Chief of Survey at Bryant Associates, Mr. Lipsitz brings more than 17 years of experience in all phases of land surveying. He has the supervisory responsibility for all field survey personnel, deed research, office calculations, preparation of right-of-way drawings and property plans undertaken by the firm.

He served as the Chief of Survey for the Southwest Corridor Project - Section II in charge of all field surveying, taking plans, land court plans, disposition plans and P.I.C. plans for the orange line relocation.

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: Howard Goldberg, Vice President	a. Name & Title: A. Howard Smith, Jr., Senior Engineer
b. Project Assignment: Project Manager	b. Project Assignment: Civil Engineer
c. Name of Firm with which associated: Bryant Associates	c. Name of Firm with which associated: Bryant Associates
d. Years experience: With This Firm 9 **With Other Firms** 8	d. Years experience: With This Firm 4 With Other Firms 15
e. Education: Degree(s) / Years / Specialization Northeastern University BSCE/1973/Civil Engineering Northeastern University BSCE/1977/Civil Engineering	e. Education: Degree(s) / Years / Specialization Northeastern University B.S.C.E/1966/Civil Engineering
f. Active Registration: Year First Registered/Discipline 1978, Massachusetts/Professional Engineer CT, RI, NH, NY, ME, FL	f. Active Registration: Year First Registered/Discipline 1979 Massachusetts/Professional Engineer
g. Other Experience and Qualifications relevant to the proposed project: Mr. Goldberg has parti ipated in a wide variety of hwy. design projects. His involvement encompassed the broad range from horizontal, vertical & drainage design to the production of plans, specifications & estimates & client liaison. In addition, he is responsible as project manager for the design of the Northern Avenue Reconstruction in Massachusetts. He is acting in the same capacity for the design and preparation of Construction Contract Documents for the Reconstruction of Rockville Alton Road from I-95 to Route 91, Hopkinton, R.I. He was responsible for the design and preparation of plans for the Parham-Chippenham Connector in Richmond, Henrico County, Virginia as part of Bryant Associates involvement as sub-consultant on this project. As part of a multi-disciplinary team in solving engineering aspects of planning and design, he participated as Senior Engineer in the preparation of an EIS and Section 4(F) Statement for I-93 in the White Mountains of New England.	g. Other Experience and Qualifications relevant to the proposed project: Mr. Smith is currently the Project Engineer on the Parham/Chippenham Connector - Rte 150 and the Midtown Tunnel Norfolk/Portsmouth Interchange in Virginia. Prior to this he accomplished the horizontal and vertical alignment, drainage, estimate, specification and plan preparation for the reconstruction of Northern Avenue; the design of the surface drainage systems for Route 34 Frontage Road in New Haven, CT and Quioccasin Road Extension, Henrico County, VA. Prior to joining Bryant Associates, he worked on the MBTA Southwest Corridor Project doing the track drainage for Section II; the hydraulic and civil design for the relocation of Stony Brook under the Corridor; the inflow hydrograph to the main track drain pump station; and assisted in the preparation of specifications and estimates for the various construction contracts.

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a Name & Title Ricardo Wilson, Engineer	a. Name & Title Alison Clasby, Engineer
b Project Assignment: Civil Engineer	b. Project Assignment: Civil Engineer
c Name of Firm with which associated Bryant Associates	c. Name of Firm with which associated Bryant Associates
d Years experience: With This Firm 8 _ With Other Firms 4	d Years experience With This Firm .5 With Other Firms 2
e Education Degree(s) / Year / Specialization Syracuse University 1973/Civil Engineering	e Education Degree(s) / Years / Specialization Roger Williams College B.S.C.E.T./1987/Civil Engineering Technology
f Active Registration Year First Registered/Discipline	f Active Registration Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Wilson's experience includes horizontal alignment, vertical alignment, drainage and grading for major projects ranging from interstate highways and interchanges to complex parking facilities and site development. Presently he is the Project Engineer for alignment and drainage for Conn DOT; Park Ave. Reconstruction. He was Project Engineer for the design of the rehabilitation of sections of the Taconic and Saw Mill River Parkways in Westchester County, New York. As a senior engineer, he participated in the final design of the grading and drainage for the reconstruction and widening of Pawtucket Boulevard in Lowell, Massachusetts. He has also been responsible for the drainage of several rural highways in Vermont.	g Other Experience and Qualifications relevant to the proposed project Ms. Clasby recently joined Bryant Associates where she has been involved in the preparation of horizontal and vertical design including cross-sections for two major highway design projects in Virginia. In addition, she has performed quantity take off and cost estimates, as well as a Location Study Report for a major roadway Tunnel project in Virginia. Prior to this, Ms. Clasby worked on the survey and design of residential subdivisions.

8: Work by Firm or Joint Venture Members which Best Illustrates Current Qualifications Relevant to this Project (List not more than 10 Projects)

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (In thousands)	
				Entire Project	Work for which Firm was/is responsible
(1) Turkey Hill Road Newtown, CT	3 Span Structure over RR Bridge Design, Grading & Drainage	Connecticut Department of Transportation Wethersfield, CT	1981	750	750
(2) Taconic State Parkway Westchester, NY	Widening, Grading, Drainage, Traffic Signals & Paving	New York State Department of Transportation Albany, NY	1982	6,200	6,200
(3) Northern Avenue Reconstruction, Phases I & II/III Boston, MA	Urban St. Reconst., Sidewalks, Drainage, Utilities, Quay Wall Repairs, Const. Super.	Massachusetts Port Authority Boston, MA	1986	5,000	5,000
(4) Pawtucket Boulevard Lowell, MA	Urban Systems Improvement, Grading, Drainage and Widening	Division of Planning and Development, City of Lowell Lowell, MA	1987	3,000	3,000
(5) Route 2, Lincoln & Lexington, MA	Survey & Design of Safety Improvements Incl. Widening, Grading Drainage, Ret. Wall	Massachusetts Department of Public Works Boston, MA	1987	4,300	4,300
(6) CBD Access Improvements Lowell, MA	Sidewalks, Demo. of Buildings, Drainage Grading, Traffic Signalization	Division of Planning and Development City of Lowell, MA	1985	1,500	1,500
(7) Route 9, Marlboro, Vermont	Survey & Design for Reconstruction Incl. Climbing Lanes, 1.4 mi.	Vermont Agency of Transportation Montpelier, VT	1984	1,500	1,500
(8) Rockville-Alton Road I-95 to 91	Survey, Traffic & Design for 3.5 miles of reconstruction	Rhode Island Department of Transportation Providence, RI	1987	3,500	3,500
(9) Smith/Seneca Viaduct over Conrail & N. & W. RR Buffalo, NY	Survey & Design for Structure Removal & Replace. & Roadways	New York State Department of Transportation Albany, NY	1986	16,000	16,000
(10) Route 106 Halifax/Plympton Kingston Urban System Road	Widening, Grading, Drainage, Paving & Realignments 7.1 miles	Massachusetts Department of Public Works Boston, MA	1984	9,000	9,000

BRYANT ASSOCIATES (BA) is a civil, transportation and environmental oriented consulting engineering firm with special expertise and major experience in engineering for the design and construction supervision of new construction, rehabilitation and upgrading of highway, rail, transit and air transportation projects. The firm's staff also has extensive experience on complex projects involving urban renewal, demolition and rehabilitation of buildings and the design and rehabilitation of storm, sewer and water distribution systems. A summary of these projects include:

- Highways, expressways and toll roads where construction was on new locations requiring extensive geometric expertise and existing facilities where extensive rehabilitation, widening and upgrading have been required to conform to current safety standards and criteria.

- Mapping of the Northeast Railroad Corridor from Boston, MA to Washington, D.C. railroad section improvements in the states of Pennsylvania, Maryland and Massachusetts and the design of a major Maintenance-of-way facility in New Haven, Connecticut.

- Subconsultant for preliminary and final design of civil engineering disciplines for the Depression of the Central Artery (North Section) Boston, Massachusetts, estimated construction cost $120,000,000.

- Airport terminal, taxiway, drainage and maintenance road facilities.

- Site Engineering for Housing Project, Industrial Parks, Transportation Facilities, Commercial Business Centers and Port Facilities.

Recent projects:

- Chittenden County Circumferential Highway
  Prime Consultant for the design of 3.3 miles of new circumferential highway in Burlington, VT for the VT Agency of Transportation.

- Route 196/Route 201 Corridor, Brunswick/Topsham, ME
  Subconsultant for preliminary design for utility relocation and grading & drainage.

11. The foregoing is a statement of facts.

Signature: _____ Typed Name and Title: Jack D. Bryant, President

Date: February 1988

11

Standard Form 255 July 1975

CAROL R. JOHNSON & ASSOCIATES, INC.

The Firm

Carol R. Johnson began her own practice as a landscape architect in 1959. In the ensuing years, that practice has expanded into a 40 person firm serving clients throughout the Eastern seaboard. Located in Harvard Square, Cambridge, Carol R. Johnson & Associates, Inc. offers clients the following specialized services within the field of Landscape Architecture:

- site planning and landscape design
- site analysis
- resource inventories and environmental quality studies
- goal formulation and design development
- programs for preservation of natural resources
- environmental impact studies
- land use and development controls
- master site planning and site selection
- urban landscape revitalization
- historic landscape restoration
- open space planning and design
- cost estimation, preparation of contract documents, and bid evaluation
- site construction observation
- site maintenance program planning, and maintenance cost estimating.

CRJ&A works both as direct consultant to clients and as a subconsultant to other design professionals. The firm enjoys long-term professional relationships with municipal, state, and federal government agencies, and with leading architects and engineers throughout New England.

Carol R. Johnson & Associates has built a reputation for high quality site design which carefully integrates the client's needs and objectives with the natural opportunities of each particular site. Our designs exhibit an appropriate balance between function and aesthetics, and are technically well detailed in the best "Yankee" tradition. The firm's projects do not typically have strongly stylized solutions which would suggest the influence of a particular landscape architect. Rather, they reflect our long-established philosophy of developing a harmony between new and existing features, of emphasizing the unique qualities of a site, and of using design elements which will clearly link the completed site to its surrounding environment.

Over the years, CRJ&A projects have been recognized for their excellence in design and implementation by such groups as the American Society of Landscape Architects, the U.S. Department of Transportation, the American Association of Nurserymen, the Massachusetts Horticultural Society, and the Boston Society of Landscape Architects. The projects highlighted on the following pages represent CRJ&A's wide-ranging experience in landscape architectural design.

AFFIRMATIVE ACTION POLICY STATEMENT

It is the policy and practice of Carol R. Johnson & Associates, Inc. to assure that no person will be discriminated against or be denied the benefits of any activity, program, or employment process receiving public funds, in whole or in part, in the areas of recruiting, advertising, hiring, upgrading, promoting, transferring, demoting, lay-offs, terminations, rehiring, employment and/or rates of pay and other compensations.

It is also the policy and practice of the firm not to discriminate against any person on the grounds of race, color, creed, religious belief, national origin, ancestry, marital status, physical disability or blindness, criminal record, mental disorder, age and/or sex except where sex is a bona fide occupational qualification.

This policy and practice apply to all persons, particularly those that are members of the protected classes identified as being Blacks, Hispanics, Asian Americans, American Indians, Women, and the Handicapped.

CAROL R. JOHNSON & ASSOCIATES, INC.
Landscape Architects/Site Planners

As of November 2, 1988

	Minority Males		Minority Females		Majority Males		Majority Females		Total	
	Consultant	Sub-Consultant	Consultant	Sub-Consultant	Consultant	Sub-Consultant	Consultant	Sub-Consultant	Consultant	Sub-Consulta
Managerial						5		1		6
Professional				1		5		7		13
Technical				1		3		7		11
Clerical						1		6		7
Total				2		14		21		37

Attachment 1:
Personnel by
Classification

SOUTH END URBAN RENEWAL AREA
SHAWMUT AVENUE, UPTON TO EAST BERKELEY STREETS

PROPOSAL FOR DESIGN SERVICES

Overview of Firm Qualifications

As consulting landscape architects for the design of public improvements associated with the Shawmut Avenue reconstruction within the South End area, Carol R. Johnson & Associates, Inc. can bring a wide variety of relevant experience to the project. Over the last 29 years, the firm has undertaken the design and restoration of urban streetscapes in cities and towns throughout New England. CRJ&A has an in-depth understanding of the streetscape vocabulary and how its various elements--paving, planting, lighting, signage, and street furniture--help to link architectural buildings across the street from each other as well as active areas at either end of the street. When successfully designed and installed, they help create project unity. CRJ&A is also sensitive to the importance of long-term maintenance to the success of a streetscape revitalization effort. Design configurations, materials, and details are selected not only to make an immediate, attractive impact, but to keep on being attractive without incurring excessive operating costs. Improvements are designed to stand up to the steady high volume use and inevitable occasional abuse which they receive in downtown areas.

Relevant Firm Experience

The following projects represent the firm's wide-ranging, successful experience in urban streetscape revitalization:

Project	Description	Construction Cost
MOODY STREET RECONSTRUCTION Waltham, MA (In Progress)	Design plans, cost estimates, construction documents, and specifications for streetscape improvements, including lighting, paving, and street furniture. Ron Vokey Planning Department Waltham, MA	$ 85,000

SOUTH END URBAN RENEWAL AREA
SHAWMUT AVENUE, UPTON TO EAST BERKELEY STREETS

PROPOSAL FOR DESIGN SERVICES

Project	Description	Construction Cost
GIBB STREET RECONSTRUCTION Rochester, NY (In Progress)	Design of planting, paving, lighting, and street furniture as part of reconstruction of two block area of downtown street. Fashun Ku Planning and Community Development Rochester, NY	$ 200,000
NORTH WATER STREET IMPROVEMENTS Rochester, NY (1988)	Design of streetscape improvements: sidewalks, tree planting, pedestrian lighting, signage. Gary Gaskin, P.E. Sear Brown Associates Rochester, NY	$ 138,554
PEABODY URBAN SYSTEMS Peabody, MA (1988)	Revitalization of downtown area. sidewalk and streetscape improvements: pedestrian paving, lighting, street tree planting and furnishings. Historic restoration including relocation of monument. Paul Bracciotti Mike DiGiano Office of Community Development Peabody, MA	$4,000,000
CAMBRIDGE CENTER AT KENDALL SQUARE Cambridge, MA (1986)	Preparation of landscape guidelines and standards for mixed-use urban land development. Comprehensive design of public sector improvements. Coordination with private sector developers. Joseph Tulimieri, Director Cambridge Redevelopment Authority Cambridge, MA	$1,200,000

SOUTH END URBAN RENEWAL AREA
SHAWMUT AVENUE, UPTON TO EAST BERKELEY STREETS

PROPOSAL FOR DESIGN SERVICES

Project	Description	Construction Cost
UNION SQUARE Somerville, MA (1983)	Design review and recommendations for streetscape improvements to historic urban square: plazas, signage, lighting, planting and paving. Review of design for restoring historic war memorials. Robert Brustlin Vanasse-Hangen Design, Inc. Boston, MA	$ 500,000
MELROSE DOWNTOWN IMPROVEMENTS Melrose, MA (1981)	Urban improvements to two block area of historic commercial district coordinated with architectural preservation. Ron Nolte Community Development Melrose, MA	$ 272,000
CENTER CITY REVITALIZATION Chelsea, MA (1980)	Design and development for downtown street improvements, mini-parks, sculpture, funding application and assistance with Title 1 grant. Michael Galvin Office of Community Development Chelsea, MA	$2,800,000
MARKET SQUARE Portsmouth, NH (1979)	Design of central business district including major street improvements, corner plazas, and fountain. Christopher Sheridan Planning Department Portsmouth, NH	$ 500,000

PROJECT PERSONNEL

Gerald L. Brown Project Director	Gerald Brown is an Associate Vice President and Project Director at Carol R. Johnson & Associates, Inc. He is currently overseeing the design and implementation of streetscape improvements for Moody Street in downtown Waltham, MA; he is also directing preliminary evaluation and layout for eight parking lots at three Boston hospitals, under the administration of the City's Public Facilities Department. Additionally, he is directing design studies, permitting, and preparation of construction documents for the new Liberty Mutual Insurance Company corporate headquarters facility in Dover, NH. Mr. Brown recently supervised the development of a Master Plan Study for expansion of the Woodbrook Cemetery in Woburn, MA. Several years ago, he coordinated development of the Arlington Town Center Improvements project in Arlington, MA, including the design of new sidewalks, street tree planting, pedestrian lighting and street furniture.
Horace P. Aikman Project Manager	Horace Aikman is an Associate and Project Manager at Carol R. Johnson & Associates, Inc. Mr. Aikman is currently supervising construction of Phase II site improvements at the D Street/West Broadway public housing complex in South Boston, MA. He is also supervising construction of landscape elements at the newly revitalized Harbor Point housing development on the Columbia Point Peninsula in South Boston, MA. Mr. Aikman is also project manager for Wild Flower Lane, an exclusive estates subdivision in Weston, MA. He recently produced design development studies and contract documents for the site of the New Hempstead, NY bus terminal facility on Long Island, NY. This transportation facility is the premier project of the multi-million dollar Hempstead C.B.D. Master Plan.

As is proven in past projects over the last 29 years, Carol R. Johnson & Associates, Inc. enjoys an outstanding record for sound administrative performance and an ability to coordinate dependably all aspects of design and bid document preparation. This reputation for careful project management focuses on review of design options with the client and coordinating architects and engineers, ongoing cost evaluations, and constant checking and maintenance of project schedules.

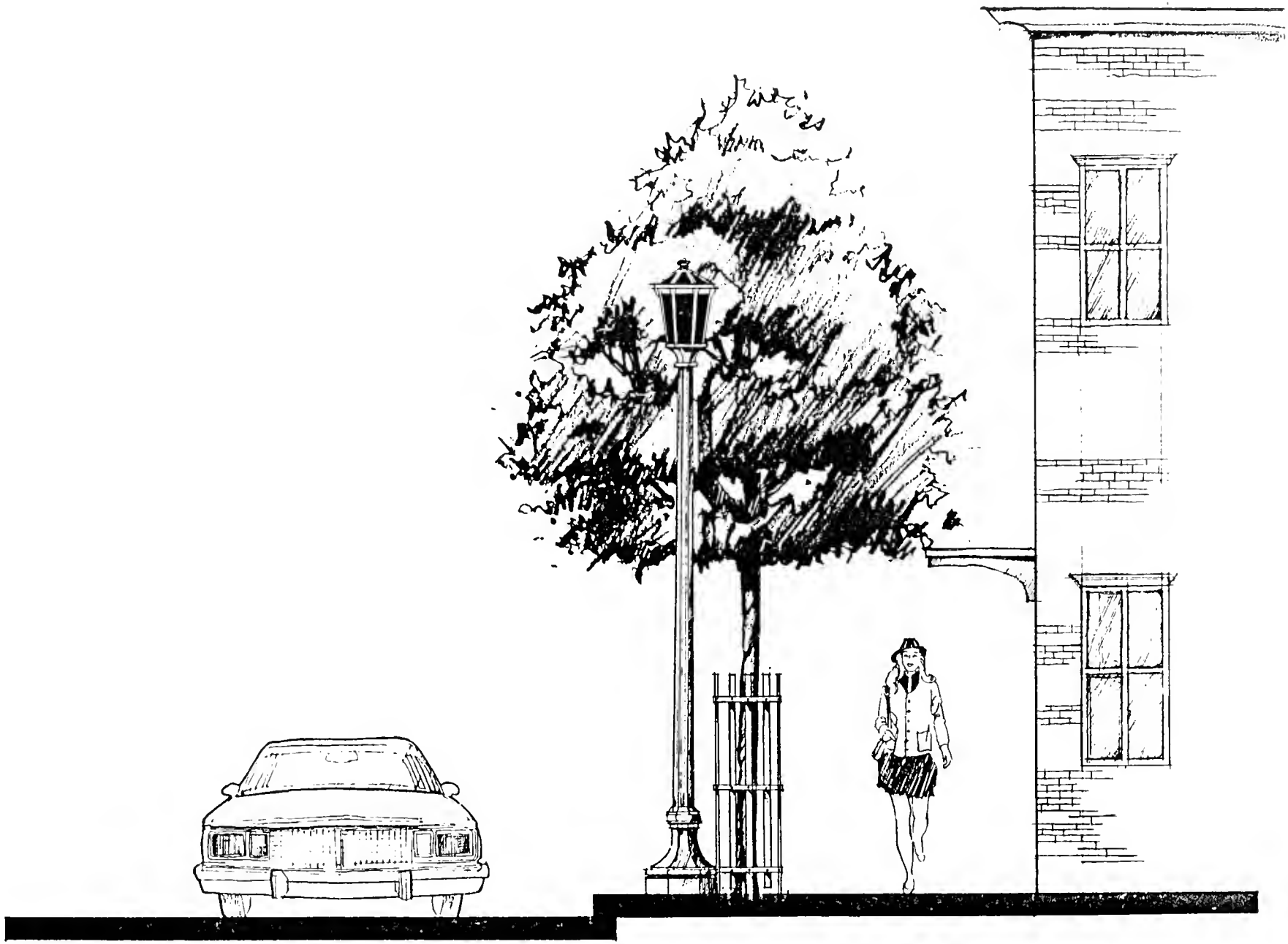
All of the firm's projects are subject to rigid cost analysis throughout the design process. This results in successful construction bids, as is evident in the following list of completed projects and their construction bids.

Project	Consultant's Estimate	Construction Cost	Year
Lechmere Canal Park Early Site Work	$1,926,175	$1,903,372	1984
Lechmere Canal Park Final Site Design	$4,113,581	$3,962,248	1986
Harborwalk Phase I	$1,822,000	$1,939,000	1984
Bulfinch Square	$ 85,896	$ 87,123	1985
University Green	$ 252,000	$ 256,000	1985
John F. Kennedy Park	$2,600,000	$2,585,000	1985
Moody Street Reconstruction Waltham, MA	$ 84,438	$ 83,700	1988

MOODY STREET IMPROVEMENTS
Waltham, Massachusetts

The Moody Street Revitalization program for the main retail area in downtown Waltham, Massachusetts was started with the construction of the first block along the master planned, ten block section of Moody Street. Streetscape improvements were designed by Carol R. Johnson & Associates, Inc., working closely with local merchants and town officials. The design palette was developed to reflect the historic character of the street and included new brick sidewalks, street trees, pedestrian lighting, and site furniture.

The Moody Street improvements are being implemented by the city in a phased program. As the merchants and landowners improve the exteriors of their buildings, the city will construct the street improvement portion of the revitalization program.



MOODY STREET IMPROVEMENTS NO SCALE

Center City Revitalization

Chelsea, Massachusetts

The Center City Revitalization effort for downtown Chelsea, Massachusetts was launched in 1977 and completed in 1980. Funded by a $3.12 million grant from the Economic Development Administration, the project brought life back into this old city, which had suffered through fires, the closing of the Chelsea Naval Hospital, and the loss of its once beautiful shoreline.

The program of streetscape improvements designed and implemented by Carol R. Johnson & Associates for the City encompassed new brick and granite sidewalks, street trees, street lights, and street furniture along Broadway Street, the primary commercial corridor. The program also included the restoration of a historic granite fountain in Chelsea Square and the use of sculptural pieces commissioned from local artists, typifying the character and heritage of the city.

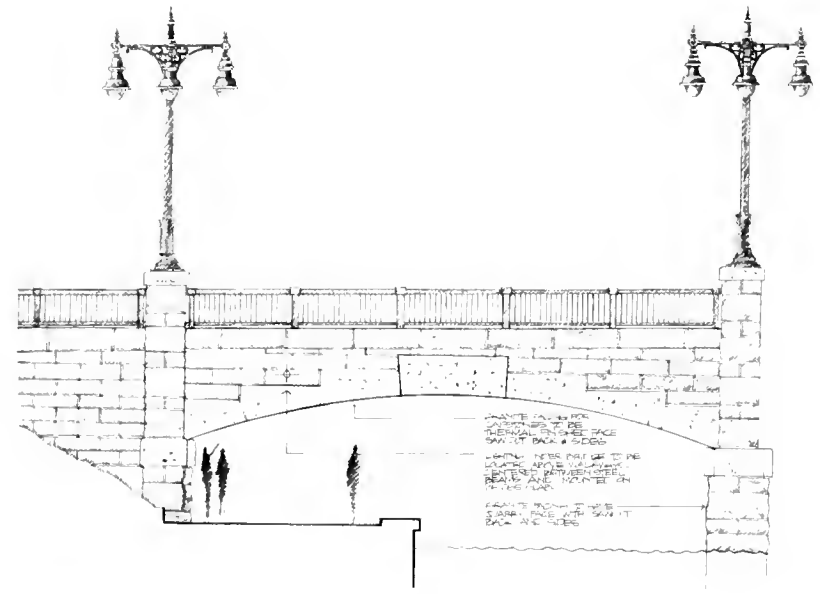
Today the revitalized downtown area continues to serve the needs of its residents, while retaining the flavor of the City's illustrious past. The project received a Merit Award from the American Society of Landscape Architects in 1980 and a Boston Society of Architects Award in 1981.

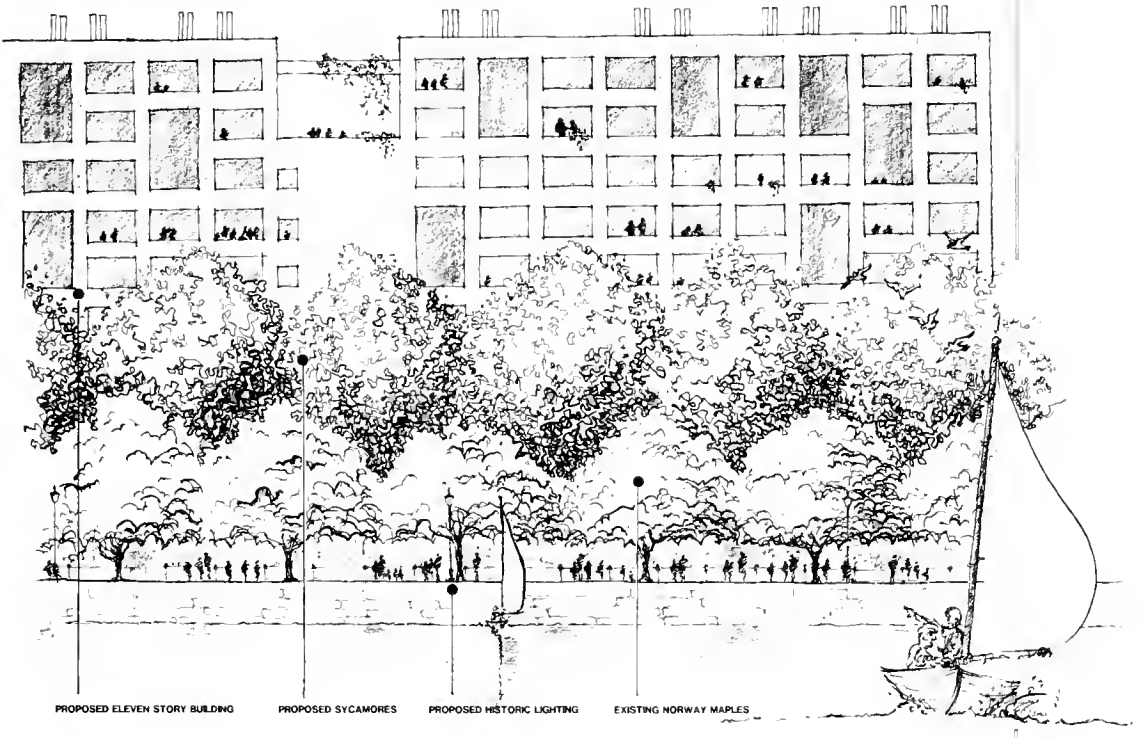
Steve Rosenthal

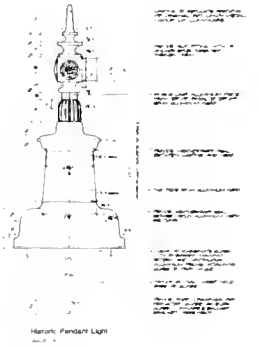
The urban design of streetscape elements—pavements, lights, planting, and street furniture—for Cambridge Center, the new mixed-use development in Kendall Square, Cambridge, is by Carol R. Johnson & Associates. Cambridge Center, with two million square feet of office, research, and retail space, a 300-room hotel and garage parking for 3,000 cars, required a contemporary image. Carol R. Johnson & Associates developed prototypical designs for all streetscape elements and design guidelines to be used along streets and throughout the entire complex.

Cambridge Center/ Kendall Square

Cambridge, MA







East Cambridge Roads and Riverfront Development

Cambridge, MA

The complete street lighting and planting plans for the renovation of nearly three miles of urban streets in East Cambridge were designed by Carol R. Johnson & Associates, Inc. Along all five streets, lights modeled upon a turn-of-the-century original were used to give a sense of identity to the district. Small scale residential neighborhood streets were given smaller lights and trees than large major streets.

The major street, Commercial Avenue, has been upgraded to be a boulevard with planted median and is planned to carry most of the truck traffic in the area. With this new upgraded traffic facility, Cambridge Parkway, now five lanes wide, will be downgraded to one traveled lane and one parking lane going 300 feet back to the embankment park. Carol R. Johnson & Associates, Inc. is designing the walks, bike paths, and planting in the expanded park.

STANDARD FORM (SF)
254
Architect-Engineer and Related Services Questionnaire

1. Firm Name / Business Address:

CAROL R. JOHNSON & ASSOCIATES, INC.
1100 Massachusetts Avenue
Cambridge, MA 02138

1a. Submittal is for ☒ Parent Company ☐ Branch Office

2. Year Present Firm Established: 1959; Inc. 1975

3. Date Prepared: March 18, 1988

4. Type of Ownership: Corporation

4a. Minority Owned ☒ yes ☐ no (WBE)
DUNS # 05-599-1608

5. Name of Parent Company, if any:

5a. Former Firm Name(s), if any, and Year(s) Established:
Carol R. Johnson, Landscape Architect (1959-1970)
Carol R. Johnson & Associates (1970-1975)

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Carol R. Johnson, President (617) 868-6115
2) Thomas W. Kirvan, Vice President (617) 868-6115

7. Present Offices: City / State / Telephone / No. Personnel Each Office

1100 Massachusetts Avenue
Cambridge, Massachusetts 02138

7a. Total Personnel 37

8. Personnel by Discipline:

8 Administrative	___ Electrical Engineers	___ Oceanographers	___
___ Architects	___ Estimators	1 Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___
___ Civil Engineers	___ Hydrologists	___ Soils Engineers	___
___ Construction Inspectors	___ Interior Designers	___ Specification Writers	___
___ Draftsmen	28 Landscape Architects	___ Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	___ Surveyors	___
___ Economists	___ Mining Engineers	___ Transportation Engineers	___

9. Summary of Professional Services Fees Received: (insert index number)

	Last 5 Years (most recent year first)				
	19 87	19 86	19 85	19 84	19 83
Direct Federal contract work, including overseas	1	1	1	1	1
All other domestic work	5	5	5	5	4
All other foreign work*	1	1	1	1	1

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Experience Profile Code Numbers
for use with questions 10 and 11

001 Acoustics; Noise Abatement
002 Aerial Photogrammetry
003 Agricultural Development; Grain Storage; Farm Mechanization
004 Air Pollution Control
005 Airports; Navaids; Airport Lighting; Aircraft Fueling
006 Airports; Terminals & Hangars; Freight Handling
007 Arctic Facilities
008 Auditoriums & Theatres
009 Automation; Controls; Instrumentation
010 Barracks; Dormitories
011 Bridges
012 Cemeteries *(Planning & Relocation)*
013 Chemical Processing & Storage
014 Churches; Chapels
015 Codes; Standards; Ordinances
016 Cold Storage; Refrigeration; Fast Freeze
017 Commercial Buildings *(low rise)*; Shopping Centers
018 Communications Systems; TV; Microwave
019 Computer Facilities; Computer Service
020 Conservation and Resource Management
021 Construction Management
022 Corrosion Control; Cathodic Protection; Electrolysis
023 Cost Estimating
024 Dams *(Concrete; Arch)*
025 Dams *(Earth; Rock)*; Dikes; Levees
026 Desalinization *(Process & Facilities)*
027 Dining Halls; Clubs; Restaurants
028 Ecological & Archeological Investigations
029 Educational Facilities; Classrooms
030 Electronics
031 Elevators; Escalators; People-Movers
032 Energy Conservation; New Energy Sources
033 Environmental Impact Studies, Assessments or Statements
034 Fallout Shelters; Blast-Resistant Design
035 Field Houses; Gyms; Stadiums
036 Fire Protection
037 Fisheries; Fish Ladders
038 Forestry & Forest Products
039 Garages; Vehicle Maintenance Facilities; Parking Decks
040 Gas Systems *(Propane; Natural, Etc.)*
041 Graphic Design
042 Harbors; Jetties; Piers; Ship Terminal Facilities
043 Heating; Ventilating; Air Conditioning
044 Health Systems Planning
045 Highrise; Air-Rights-Type Buildings
046 Highways; Streets; Airfield Paving; Parking Lots
047 Historical Preservation
048 Hospitals & Medical Facilities
049 Hotels; Motels
050 Housing *(Residential, Multi-Family; Apartments; Condominiums)*
051 Hydraulics & Pneumatics
052 Industrial Buildings; Manufacturing Plants
053 Industrial Processes; Quality Control
054 Industrial Waste Treatment
055 Interior Design; Space Planning
056 Irrigation; Drainage
057 Judicial and Courtroom Facilities
058 Laboratories; Medical Research Facilities
059 Landscape Architecture
060 Libraries; Museums; Galleries
061 Lighting *(Interiors; Display; Theatre, Etc.)*
062 Lighting *(Exteriors; Streets; Memorials; Athletic Fields, Etc.)*
063 Materials Handling Systems; Conveyors; Sorters
064 Metallurgy
065 Microclimatology; Tropical Engineering
066 Military Design Standards
067 Mining & Mineralogy
068 Missile Facilities *(Silos; Fuels; Transport)*
069 Modular Systems Design; Pre-Fabricated Structures or Components
070 Naval Architecture; Off-Shore Platforms
071 Nuclear Facilities; Nuclear Shielding
072 Office Buildings; Industrial Parks
073 Oceanographic Engineering
074 Ordnance; Munitions; Special Weapons
075 Petroleum Exploration; Refining
076 Petroleum and Fuel *(Storage and Distribution)*
077 Pipelines *(Cross-Country—Liquid & Gas)*
078 Planning *(Community, Regional, Areawide and State)*
079 Planning *(Site, Installation, and Project)*
080 Plumbing & Piping Design
081 Pneumatic Structures; Air-Support Buildings
083 Power Generation, Transmission, Distribution
084 Prisons & Correctional Facilities
085 Product, Machine & Equipment Design
086 Radar; Sonar; Radio & Radar Telescopes
087 Railroad; Rapid Transit
088 Recreation Facilities *(Parks, Marinas, Etc.)*
089 Rehabilitation *(Buildings; Structures; Facilities)*
090 Resource Recovery; Recycling
091 Radio Frequency Systems & Shieldings
092 Rivers; Canals; Waterways; Flood Control
093 Safety Engineering; Accident Studies; OSHA Studies
094 Security Systems; Intruder & Smoke Detection
095 Seismic Designs & Studies
096 Sewage Collection, Treatment and Disposal
097 Soils & Geologic Studies; Foundations
098 Solar Energy Utilization
099 Solid Wastes; Incineration; Land Fill
100 Special Environments; Clean Rooms, Etc.
101 Structural Design; Special Structures
102 Surveying; Platting; Mapping; Flood Plain Studies
103 Swimming Pools
104 Storm Water Handling & Facilities
105 Telephone Systems *(Rural; Mobile; Intercom, Etc.)*
106 Testing & Inspection Services
107 Traffic & Transportation Engineering
108 Towers *(Self-Supporting & Guyed Systems)*
109 Tunnels & Subways
110 Urban Renewal; Community Development
111 Utilities *(Gas & Steam)*
112 Value Analysis; Life-Cycle Costing
113 Warehouses & Depots
114 Water Resources; Hydrology; Ground Water
115 Water Supply, Treatment and Distribution
116 Wind Tunnels; Research/Testing Facilities Design
117 Zoning; Land Use Studies
201 Approvals/Permits
202 _____
203 _____
204 _____
205 _____

. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
) 010	10	376	11) 042	12	717	21) 072	38	4,032
) 011	2	159	12) 046	59	3,016	22) 079	71	5,624
) 012	2	14	13) 047	15	992	23) 084	9	253
) 014	2	52	14) 048	14	212	24) 087	13	621
) 015	13	2,791	15) 050	70	1,535	25) 088	41	3,654
) 017	14	3,409	16) 052	15	897	26) 089	63	4,859
) 029	58	1,160	17) 056	48	4,238	27) 096	16	226
) 033	14	2,084	18) 058	5	133	28) 097	17	2,659
) 035	6	132	19) 060	10	285	29) 110	37	4,918
) 039	9	368	20) 062	43	6,511	30) 201	23	2,969

. Project Examples, Last 5 Years

rofile ode	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
)10	C	1 Southeastern Massachusetts University Student Residences Dartmouth, Massachusetts	Southeastern Massachusetts University Dartmouth, Massachusetts	$ 1,200	1988
)11	C	2 I/84-I/91 Final Design I/84 Platform Hartford, Connecticut	Connecticut Dept. of Transportation Wethersfield, Connecticut	$18,000 2,500	1992
)12	P	3 Spring Grove Cemetery Master Plan Andover, Massachusetts	Kenneth Mahony, Town Manager Andover, Massachusetts	$ 45	1985
)14	P	4 Church of Jesus Christ of Latter-Day Saints Belmont, Massachusetts	Church of Jesus Christ of Latter-Day Saints Belmont, Massachusetts	MP - $4,000 Phl- 933	1985
)15	C	5 George's Island Master Plan Boston Harbor Boston, Massachusetts	The Metropolitan District Commission Boston, MA	N/A	1988
)17	C	6 Martha's Vineyard National Bank Tisbury, Massachusetts	MVY Realty Trust Boston, Massachusetts	$ 975	1989
)29	C	7 Somerville Comprehensive High School Somerville, Massachusetts	City of Somerville Somerville, Massachusetts	$ 2,000	1988

033	C	8 Ocean Spray Cranberries, Inc. Corporate Headquarters Lakeville/Middleboro, Massachusetts	Ocean Spray Cranberries, Inc. Plymouth, Massachusetts	$ 3,600	1988
035	C	9 Fitchburg State College Athletic Facility Fitchburg, Massachusetts	Fitchburg State College Fitchburg, Massachusetts	$ 1,600	1989
039	C	10 University of Massachusetts Medical Center Parking Garage Worcester, Massachusetts	The University of Massachusetts Medical Center Worcester, Massachusetts	$ 1,100	1988
042	C	11 Shipyard Quarters Condominiums Charlestown Navy Yard Charlestown, MA	Raymond St. John Development Company Charlestown, MA	$ 600	1988
046	P	12 Bromley-Heath Housing Site Modernization Jamaica Plain, MA	Bromley-Heath Tenant Management Corp. Boston Housing Authority Boston, Massachusetts	$ 7,000	1989
047	P	13 The Vale Master Plan Waltham, Massachusetts	Society for the Preservation of New England Antiquities Waltham, Massachusetts	Ph 1 - 4: $ 1,978	1987
048	P	14 University Hospital Boston, Massachusetts	University Hospital Boston, Massachusetts	$ 120	1988
050	P	15 Arluwade (The Bryer Estate) Hampton, New Hampshire	John Merchant (for the Bryer Estate) JMP Properties Salem, New Hampshire	$ 1,000	1989
052	C	16 Black & Decker Manufacturing Company Headquarters Towson, Maryland	Black & Decker Manufacturing Company Towson, Maryland	$ 2,257	1986
056	P	17 John F. Kennedy Park Cambridge, Massachusetts	The Metropolitan District Commission Boston, Massachusetts	$ 2,500	1987
058	C	18 Clinical Area Improvements V.A. Medical Center Togus, Maine	The Veterans Administration Washington, D.C.	$27,000	1990
060	C	19 Bulfinch Square/Cambridge Multicultural Arts Center	Graham Gund, Architect/Developer Cambridge, Massachusetts	$ 668	1986

52	C	East Cambridge Roadway Improvements East Cambridge, Massachusetts	Community Development Department Cambridge, Massachusetts	$2,725	1989
'2	P	21 Digital Equipment Corporation Spit Brook Facility Master Plan Spit Brook (Nashua), New Hampshire	Digital Equipment Corporation Maynard, Massachusetts	Ph. 1-3 $6,800	1988
'9	C	22 I-84 Platform Design Hartford, Connecticut	Connecticut Dept. of Transporation Wethersfield, Connecticut	$2,500	1992
14	C	23 MCI Framingham Framingham, Massachusetts	Commonwealth of Massachusetts Department of Corrections Boston, Massachusetts	$2,220	1990
17	C	24 Old Colony Rail Line Rehabilitation The South Shore Boston, Massachusetts	Massachusetts Bay Transportation Authority Boston, MA	$15,000	1991
18	P	25 Newton Country Day School of the Sacred Heart Athletic Fields Newton, Massachusetts	Newton Country Day School Newton, Massachusetts	$1,000	1989
19	C	26 The Massachusetts State House Site Modernization Program Boston, Massachusetts	Commonwealth of Massachusetts Division of Capital Planning & Operations, Boston, Massachusetts	$1,500	1989
16	C	27 Woodstock, New York Wastewater Treatment Facility	Town of Woodstock, New York	$ 270	1983
17	P	28 Flat Rock Sanctuary Fitchburg, Massachusetts	The Massachusetts Audubon Society Lincoln, Massachusetts	$ 180	1990
.0	P	29 Eastman Plaza Rochester, New York	Cultural District Commission Rochester, New York	$ 300	1989
11	P	30 Lechmere Canal Park East Cambridge, Massachusetts	Community Development Department Cambridge, Massachusetts	$6,200	1988

2. The foregoing is a statement of facts

gnature: Carol R. Johnson Typed Name and Title: Carol R. Johnson, President

Date: March 18, 1988

STANDARD FORM (SF) **255**
Architect-Engineer Related Services for Specific Project

1. Project Name / Location for which Firm is Filing:

SOUTH END URBAN RENEWAL AREA
SHAWMUT AVENUE, UPTON TO EAST BERKELEY STREETS
BOSTON, MA

2a. ***Commerce Business Daily*** Announcement Date, if any:

2b. Agency Identification Number, if any:

3. Firm (or Joint-Venture) Name & Address

CAROL R. JOHNSON & ASSOCIATES, INC.
1100 Massachusetts Avenue
Cambridge, MA 02138

3a. Name, Title & Telephone Number of Principal to Contact

(Ms.) Carol R. Johnson, President
(617) 868-6115

3b. Address of office to perform work, if different from Item 3

4. Personnel by Discipline:

6 Administrative	___ Electrical Engineers	___ Oceanographers	___
___ Architects	___ Estimators	___ Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___
___ Civil Engineers	___ Hydrologists	___ Soils Engineers	___
___ Construction Inspectors	___ Interior Designers	1 Specification Writers	___
___ Draftsmen	26 Landscape Architects	___ Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	___ Surveyors	___
___ Economists	___ Mining Engineers	___ Transportation Engineers	33 Total Personnel

5. If submittal is by Joint-Venture list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm: (Attach SF 254 for each if not on file with Procuring Office.)

5a. Has this Joint-Venture previously worked together? ☐ yes ☐ no

Standard Form 255 July 1975
Prescribed By GSA Fed. Prop. Reg. (41 CFR) 1-18.903

7. Brief Resume of Key Persons, Specialists, and Individual Consultants Anticipated for this Project

a. Name & Title: CAROL R. JOHNSON, PRESIDENT	a. Name & Title: GERALD L. BROWN, ASSOCIATE VICE PRESIDENT
b. Project Assignment: PRINCIPAL-IN-CHARGE	b. Project Assignment: PROJECT DIRECTOR
c. Name of Firm with which associated: CAROL R. JOHNSON & ASSOCIATES, INC.	c. Name of Firm with which associated: CAROL R. JOHNSON & ASSOCIATES, INC.
d. Years experience: With This Firm 29 With Other Firms 2.5	d. Years experience: With This Firm 14 With Other Firms 1
e. Education: Degree(s) / Year / Specialization Harvard University, Masters, 1957, Landscape Architecture Wellesley College, Bachelor of Arts, 1951, English	e. Education: Degree(s) / Years / Specialization Utah State University, Bachelors, 1973, Landscape Architecture
f. Active Registration: Year First Registered/Discipline 1964-Landscape Architecture-New York, Connecticut, Massachusetts, Maine, Ohio, Rhode Island, Virginia, N.J.	f. Active Registration: Year First Registered/Discipline 1985 - Landscape Architecture - New Jersey
g. Other Experience and Qualifications relevant to the proposed project: Carol R. Johnson is President and founder of Carol R. Johnson & Associates, Inc. In her 29 years of experience as head of the firm, she has administered all firm projects. Her typical areas of concern relate to master planning and urban landscape design for cities; campus planning and design, open space and park design, and public housing site rehabilitation. Under her supervision CRJ&A has designed streetscape revitalization programs for communities throughout New England. Of note are completed projects at Cambridge Center in Kendall Square, Cambridge, MA; the Center City Revitalization of downtown Chelsea, MA; and downtown restoration efforts in Arlington, MA and Melrose, MA. Ongoing revitalization projects include the East Cambridge Roadways and Riverfront Redevelopment; as well as work in Rochester, NY, Waltham, MA, and Malden, MA.	g. Other Experience and Qualifications relevant to the proposed project: Gerald Brown is an Associate Vice President and Project Director at Carol R. Johnson & Associates, Inc. He is currently directing the design of streetscape improvements along Moody Street in downtown Waltham, MA for the town's Planning Department. Mr. Brown was project director for the design of improvements to the Joseph Lee Playground in Boston's Fenway neighborhood, for the City's Public Facilities Department. He also oversaw the master plan design and development for the award-winning Massachusetts National Cemetery on Cape Cod, for the Veterans Administration. Under his direction, CRJ&A has master planned and designed the sites for Digital Equipment Corporation facilities in Marlborough, MA, Littleton, MA, and Nashua, NH.

8. Work by firm or joint-venture members which best illustrates current qualifications relevant to this project (list not more than 10 projects).

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Project Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
(1) CAMBRIDGE CENTER AT KENDALL SQUARE Cambridge, MA	Landscape design and construction documents for urban streetscape.	Thad Tercyak Cambridge Redevelopment Auth. Cambridge, MA	1986	$10,000	$2,000
(2) PEABODY URBAN SYSTEMS Peabody, MA	Downtown streetscape revitalization: planting paving, lighting.	Mike DiGiano Office of Community Devpmt. Peabody, MA	1987	$ 4,000	$4,000
(3) INTERCULTURAL CENTER Rochester, NY	Streetscape improvements for downtown revitalization of historic area.	Lewis A. Parker Metro Center for the Arts Rochester, NY	1984	$ 1,000	$1,000
(4) UNION SQUARE Somerville, MA	Recommendations for streetscape improvements to historic urban square	Robert Brustlin Vanasse-Hangen Design, Inc. Boston, MA	1983	$ 500	$ 500
(5) ARLINGTON TOWN IMPROVEMENTS Arlington, MA	Design of brick sidewalks, tree planting, site furniture, lights.	Alan McClennan Community Development	1981	$ 450	$ 450
(6) MELROSE DOWNTOWN IMPROVEMENTS Melrose, MA	Urban improvements to historic commercial	Ron Nolte Community Development	1980	$ 212	$ 212
(7) CARY SQUARE Chelsea, MA	Urban street improvement program as part of downtown revitalization.	Michael Glavin Community Development	1980	$ 288	$ 288
(8) CENTER CITY REVITALIZATION Chelsea, MA	Design of downtown street revitalization improvements.	Michael Glavin Community Development Chelsea, MA	1980	$ 2,800	$2,800
(9) DOCK SQUARE AT FANEUIL HALL Boston, MA	Site development for historic city plaza.	Roger Ericson Boston Redevelopment Authority	1976	$ 2,190	$2,190
(10) COMMONWEALTH AVENUE MALL Boston, MA	Design for restoration of historic urban mall.	Boston Parks & Recreation Boston Public Facilities	1980	$ 303	$ 303

9. All work by firms or joint-venture members currently being performed directly for Federal agencies.

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Agency (Responsible Office) Name & Address	d. Percent complete	e. Estimated Cost (In Thousands)	
				Entire Project	Work for which firm is responsible
Veterans Administration Medical Center Boston, MA	Parking Lot Expansion and Upgrading	Jim Boaz, Engineer Services V.A.M.C. South Huntington Avenue Boston, MA	100%	$ 180	$ 180

Carol R. Johnson & Associates, Inc. was founded in Cambridge, MA, in 1959. The firm has provided a wide range of landscape architectural and site planning services to public and private sector clients throughout the Northeast for almost 30 years. The current staff numbers 33, of whom 27 are landscape architects. Typical services provided by the firm include land planning and site analysis, resource inventories, visual impact studies, site master planning, urban landscape design and restoration, open space planning and design, and institutional, corporate, and municipal facilities site design. The firm offers in-house a full complement of planning and design services, from initial goal formulation to schematic design, design development, construction documents and specifications, and site construction supervision. It also provides site maintenance program planning and design.

As consulting landscape architects for the South End Urban Renewal Area Shawmut Avenue Improvements, Carol R. Johnson & Associates, Inc. would bring the following strengths to the project team:

1. In-depth experience in the design and implementation of urban streetscape revitalization programs, including the design of new sidewalks, site furniture, lighting, and street tree planting. CRJ&A has a clear understanding of the streetscape vocabulary and how its various elements help to link architectural buildings across the street from each other as well as active ares at either end of a street. When successfully designed and installed, these elements help create project unity. CRJ&A is also sensitive to the importance of long-term maintenance to the success of a streetscape revitalization effort. Design configurations, materials, and details are selected not only to make an immediate, attractive impact, but to keep on being attractive without incurring excessive operating costs. Improvements are designed to stand up to the steady high volume use and inevitable occasional abuse which they receive in downtown areas.

2. An ability to work with public agencies to secure necessary approvals and permits and with concerned neighborhood residents to solicit their input into the design process.

3. An established professional relationship with the Boston Redevelopment Authority, under whose direction the firm designed and implemented improvements to two city blocks along the Commonwealth Avenue Mall.

4. A proven reputation for quality landscape design and site development, and for careful project management, including ongoing review of design options with the client and with coordinating architects and engineers, ongoing estimating of site work construction costs, and constant checking and maintenance of project schedules.

6. A qualified and available in-house staff of landscape design professionals committed to the successful outcome of this effort.

Carol R. Johnson & Associates, Inc. is a SOMWBA-certified woman-owned small business enterprise with an established affirmative action program.

11. The foregoing is a statement of facts.

Signature: Carol R. Johnson Typed Name and Title: Carol R. Johnson, President

Date: October 25, 1988

HALEY AND ALDRICH, INC

HALEY & ALDRICH, INC.

CORPORATE ORGANIZATION, QUALIFICATIONS AND EXPERIENCE

GENERAL

The following information provides a brief description of the history of Haley & Aldrich, Inc., its staff organization, awards, scope of services, laboratory facilities, quality assurance, and cost control.

HISTORY

Haley & Aldrich is a firm of consulting geotechnical engineers, geologists and hydrogeologists. The firm's geotechnical work includes soil and rock mechanics, foundation engineering, engineering geology, seismic risk analysis and instrumentation. Our environmental services range from environmental site assessments for real estate transfer to the remediation of major hazardous waste disposal sites. We provide a complete range of services to see our clients through all phases of site evaluation, design, construction and post-construction monitoring.

Since our founding in 1957, Haley & Aldrich has participated in more than 8,000 projects from highways, dams, tunnels and other infrastructure improvements to buildings from one-story warehouses to high-rises in excess of 40 stories. Although our work is concentrated in the Northeast, we routinely provide services throughout the U.S. and also have worked in numerous foreign locations.

STAFF ORGANIZATION

Haley & Aldrich is wholly owned by its twenty-five Principals, Associates and senior professional personnel, all of whom are full-time employees of the firm. The principal office and laboratories are located in Cambridge, Massachusetts. There are three branch offices, in Portland, Maine; Glastonbury, CT and Bedford, New Hampshire, and an affiliate office, H&A of New York, is located in Rochester, New York.

The total staff numbers approximately 280 with over 150 civil engineers, geologists, hydrogeologists, and scientists most of whom have received graduate degrees. Six hold doctoral degrees in geotechnical engineering and geology.

AWARDS

Most recently the firm won the 1987 American Consulting Engineers Council (ACEC) Grand Conceptor Award, the top award in New England, and a 1988 Honor Award from the national organization for its work on the Rowes Wharf Development. In 1985, Haley & Aldrich received an ACEC/NE Award for Excellence for the Massachusetts Bay Transportation Authority Porter Square Subway Station in Cambridge, Massachusetts. Other ACEC awards include a 1984 Award of Excellence for a "Lime Lagoon Closure Program" for the Eastman Gelatine Corporation in Peabody, Massachusetts; the 1981 Grand Conceptor's Award as geotechnical consultant for design and construction of the Trident drydock, Bangor, Washington; and in 1976, the Grand Conceptor Award for its work on "Sixty State Street, Protecting the Cradle of Liberty", Boston, Massachusetts.

SCOPE OF SERVICES

Haley & Aldrich normally serves as either a project design team member or in direct consultation with the Owner, providing reports containing soil, rock and groundwater data, interpretation of these data and conclusions and recommendations relative to geotechnical engineering, geologic and hydrogeologic aspects of the project.

A typical full-service Haley & Aldrich project includes the following scope and sequence. This list is routinely modified as needed to suit client needs and objectives:

- Geologic studies including literature reviews, air photo interpretation, reconnaissance and field mapping, as required to define subsurface conditions, feasibility of the site for construction and to determine preliminary foundation and site development requirements.

- Monitoring of subsurface explorations and conduct of field tests including boreholes, test pits, geophysical surveys, groundwater observation wells and piezometers, field permeability tests and groundwater sampling.

- Laboratory testing to classify soil and rock and determine engineering properties for design purposes.

  Engineering, geologic and hydrogeologic analyses and recommendations for foundations, earthwork, groundwater control or protection, and other geotechnical features of the project.

  Specification provisions for construction including foundations, dewatering and earthwork.

- o Construction monitoring including observation of foundation construction and earthwork, associated field and laboratory testing, and geotechnical instrumentation required to monitor the behavior of the structure and adjacent property during and following construction.

- o Client support in the regulatory process associated with environmental impact and permitting.

Some of the special services and capabilities of the firm and its key personnel include:

- o Hydrogeologic studies related to groundwater, with special emphasis given to controlled and uncontrolled waste disposal sites.

- o Design, installation and monitoring of geotechnical instrumentation.

- o Blast and construction vibration monitoring.

- o Seismic risk evaluations, earthquake engineering, and soil dynamics.

- o Use of vertical sand and wick drains.

- o Evaluation of frost and permafrost problems.

LABORATORY FACILITIES

Haley & Aldrich maintains fully-equipped soil and rock testing laboratories capable of performing standard classification, strength, consolidation and permeability tests. In addition, dynamic testing equipment is maintained for specialized cyclic triaxial and resonant column testing. A full array of rock mechanics laboratory equipment is used for the engineering classification of core and block samples recovered for rock engineering projects.

QUALITY ASSURANCE

The Quality Assurance Program has been developed in accordance with current and accepted industry practices and standards. It provides the framework by which geotechnical engineering, field and laboratory services are conducted. Manuals of technical procedures for laboratory testing and for field exploration and testing have been prepared. These procedures are the basis by

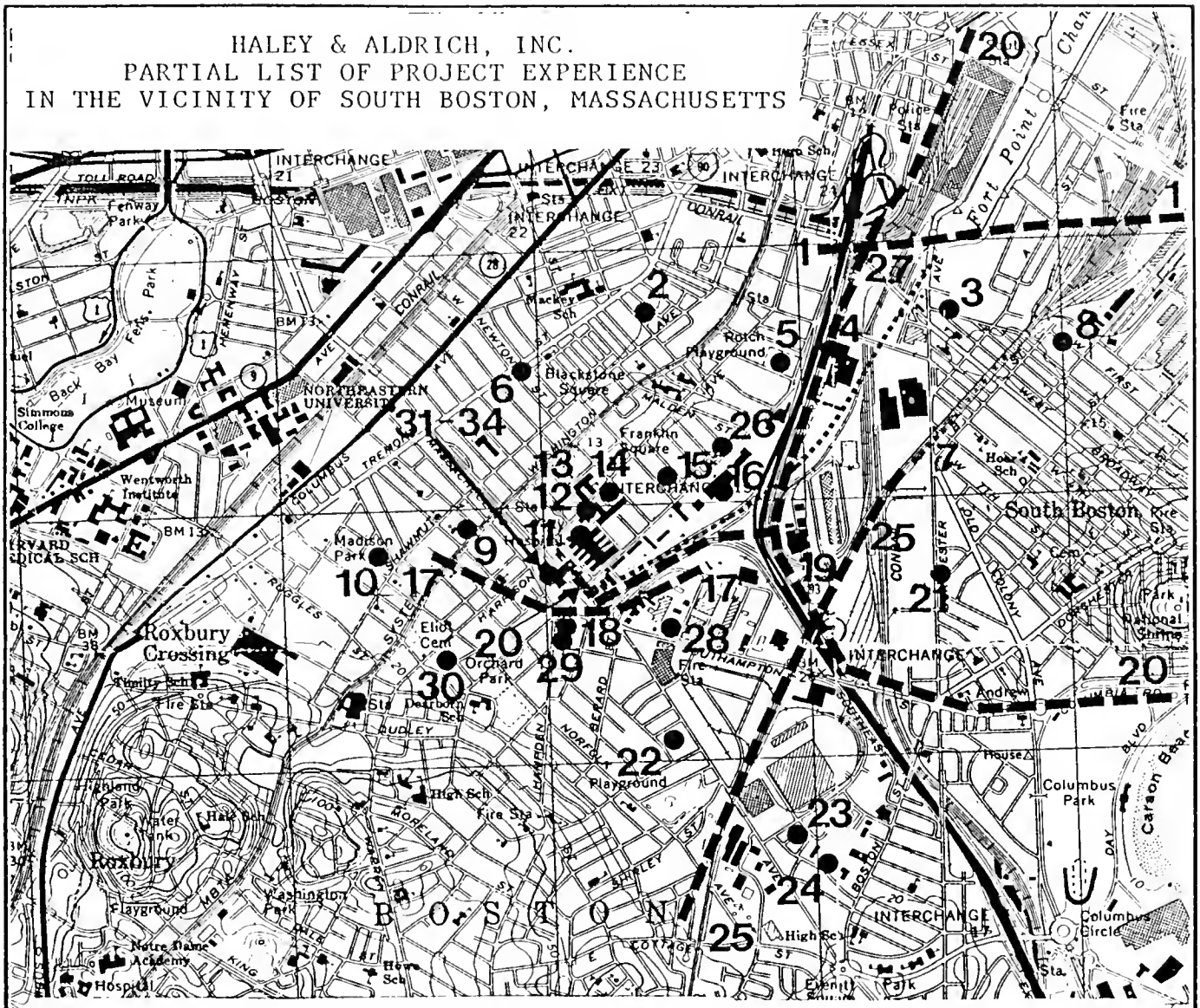
which the firm's laboratory and field work are performed. The manuals are also used for orientation and training of new personnel under the supervision of experienced key personnel. Quality assurance in engineering services provides control over the quality of studies and analyses and the presentation of data, results and recommendations in reports.

COST CONTROL

Haley & Aldrich exercises financial control of its geotechnical and environmental services, initially through a policy of having project proposals prepared by those who will manage the work. Thereafter, financial control includes a weekly posting of manpower and expenses, all furnished to the project manager on a category-related and percentage-expended computer printout. Weekly reports are reviewed by the Business Manager.

0141z/888

HALEY & ALDRICH, INC.
PARTIAL LIST OF PROJECT EXPERIENCE
IN THE VICINITY OF SOUTH BOSTON, MASSACHUSETTS



1. Third Harbor Tunnel Environmental Impact Study
2. Apartment Buildings, Waltham St.
3. Over 10 Projects - Gillette Park
4. City of Boston Service Garage
5. Rotch Playground
6. Branch Library, South End
7. B Street Overflow Conduit
8. Oil & Hazardous Material Site Evaluations, 27 Parcels, W. First & Second Sts.
9. Derby Park Recreation Facilities Site Preparation
10. Westminster Place/Willard Place Housing Project, Floor Settlement Studies
11. Farnsworth Building
12. Research Laboratory, B.U. Medical Center
13. Doctor's Building, University Hospital
14. Building Q University Hospital
15. Pine Street Inn, Briston St.
16. Boston Flower Exchange, Albany St.
17. Interstate 95, Central Artery to Shawmut Ave.
18. Manufacturing Plant for Digital Equipment Corp.
19. Brine Tank, Agar Supply Co.
20. New East Side Interceptor Sewers
21. Tide Gate Rehabilitation Modifications
22. U-Haul Facility, Massachusetts Ave.
23. Cement Silo, Boston Sand & Gravel
24. Ready Mix Concrete Plant
25. MBTA Midland Div., R.O.W. Readville-South Bay
26. Additions to New England Nuclear Building
27. Roxbury Canal Conduit
28. Traffic Dept. Building Addition
29. Proposed Building, Beckwith Elevator Co.
30. Morgan Memorial Goodwill Industries Warehouse
31. Boston City Hospital Expansion
32. Addition to Boston City Hospital
33. Bio Chemistry Laboratory, Boston City Hosp.
34. Dowling Building, Boston City Hospital

Martin C. Murphy

Principal and Senior Vice President
Haley & Aldrich, Inc.

Experience

1960 - Present

Haley & Aldrich, Inc.
1966 Associate and Vice President
1972 Principal and Senior Vice President

Project engineer and project manager for geotechnical aspects of a broad range of projects. Experience includes water and wastewater treatment plants, pipelines, highways, bridges, buildings, waterfront structures, large site development projects such as regional shopping centers, permanent and temporary lateral earth support systems, and large storage tanks for liquified natural and propane gas, petroleum and municipal water systems.

The scope of experience ranges from preliminary feasibility studies, through design investigations, preparation of plans and specifications, to consultation and monitoring during construction. Individual projects have also included investigations of failures and testimony during litigation.

Highway experience includes numerous roadways, bridges and retaining walls and in a variety of soil conditions in the Northeast. Projects have included stabilization of soft soils by surcharging and sand drains, stabilization of side slopes in cuts, and design of roadway subdrain systems and pavement cross sections.

Wastewater treatment facility experience includes pumping stations requiring deep excavations in soft soils, the various plant structures, basins and tanks, river relocations, and dikes for flood protection. Pipelines in connection with this work have generally been large-diameter interceptors requiring deep excavations, frequently in poor soil/water conditions. Projects in urban areas have required evaluation of the possible impact of construction on adjacent structures and utilities, and the need and methods to control groundwater lowering areas adjacent to the construction. Pipeline experience also includes pipe jacking, river crossings and outfalls into rivers and harbors.

Experience in buildings ranges from single story shopping centers to high rise buildings in urban locations. Foundations have included spread footings, mats, caissons and a variety of pile types.

1954 - 1960 Edwards and Kelcey, Inc.

Soil Engineer with responsibility for geotechnical aspects of design of highways, bridges and municipal facilities.

1952 - 1954 U. S. Marine Corps

Mr. Murphy served as an artillery officer in the U. S. Marine Corps, with service in Japan and Korea.

1951 - 1952 Porter, Urquhart and Skidmore, Owings and Merrill

Junior Soil Engineer with duties including construction control and evaluation of airfield pavements at NATO bases in French Morocco.

1972 - 1976 Northeastern University (Lincoln College, Evening Div.)

Lecturer in Materials and Soil Mechanics.

Education

Massachusetts Institute of Technology, Cambridge, MA S.B. 1951

Graduate-level courses in Soil and Foundation Engineering, Concrete Technology, and Hydrology at Northeastern University, Boston, MA

Professional Registration

Massachusetts

Professional Societies

American Society of Civil Engineers
Boston Society of Civil Engineers Section, ASCE

Michael W. Oakland

Staff Engineer
Haley & Aldrich, Inc.

Experience

1986 - Present — Haley & Aldrich, Inc.

As part of the General Engineering Services Group Mr. Oakland has participated in a wide range of geotechnical engineering investigations for various projects involving surcharging of organic soils to limit future settlement, medium and low rise buildings, parking garages, reservoirs and dams, and the design and review of designs for a broad range of lateral earth support systems.

Mr. Oakland served as the engineer-in-charge on projects including state-of-the-art Monolithic Microwave Integrated Circuit (MMIC) manufacturing plant for the Raytheon Corporation which involved strict performance criteria with respect to settlements and vibration response in order to maintain "clean room" facilities.

Recently, Mr. Oakland worked as a project engineer on a major building being constructed at 745 Atlantic Avenue. His responsibilities included a detailed review and recommendations on several lateral earth support system submittals a well as monitoring the performance of the installed system. Daily monitoring of the system was conducted during critical junctures in the basement construction and the survey results were often reported the same day as they were gathered.

Work experience on major projects include:

- Highgate Falls, CT: responsible for reservoir slope stability analysis, sheet pile analyses and sliding analyses of proposed dam.

- Soccer Field at the Buckingham, Brown & Nichols School, Cambridge, MA: provided recommendations for surcharging of the school soccer fields to consolidate the underlying organics and reduce future settlements to a tolerable level.

- 745 Atlantic Avenue, Boston: reviewed design of temporary lateral earth support system for the construction of three below grade floors; designed and monitored an instrumentation program including incinometers, strain gages, tilt plated, crackgages, observation wells and optical surveys relating to lateral earth support monitoring; monitored construction on the field; attended site meetings.

- Boston Central Artery - North Area, Boston, MA: reviewed the design of surcharge and wickdrains for consolidation of organic soils and reviewed monitoring of the on-going settlements to make recommendations for the surcharge removal; designed a variety of sheet pile, soldier pile and lagging lateral earth support systems to facilitate construction of bridge piers adjacent to existing structures; provided consultation related to pile installation.

- Salem Roadway Reconstruction, Topsfield, MA: designed an earth embankment, inlet and culvert structures to replace a washed out roadway/dam which existed at the site. The new roadway was designed to serve as a dam.

- Parcel 3 Parking Garage, Pittsfield, MA: evaluated and recommended foundation design alterations for a 4-story, 750 car parking garage to be constructed on a site underlain by rubble fill from on-site razed buildings.

1982 - 1986 Purdue University

Research Assistant for the Joint Highway Research Project to develop standardized tests to evaluate shale suitability for compact embankments. Developed three-dimensional finite element program to evaluate the stabilizing effect of drilled piers in distressed slopes.

Education

The Pennsylvania State University B.S.C.E. 1980
Purdue University M.S. 1981
Purdue University Ph.D. 1986

Professional Societies

American Society of Civil Engineering
Boston Society of Civil Engineers Section, ASCE

Honorary Societies and Awards

Forum Committee Member; BSCE Geotechnical Group

Honorary Societies and Awards (Continued)

Executive Committee Member; BSCE Computer Group
Tau Beta Pi, Engineering Honor Society
Chi Epsilon, Civil Engineering Honor Society
Golden Key, General Honor Society
Phi Eta Sigma, Freshman Honor Society

Publications and Papers

" Classification and Other Standard Tests for Shale Embankments", with C. W. Lovell, Joint Highway Research Project, No. 82-4, Purdue University, West Lafayette, Indiana, February, 1982.

" Standardized Tests for Compacted Shale Highway Embankments", with C. W. Lovell, Transportation Research Record, 873, Transportation Research Board, February, 1983. Presented to the TRB session on weak rocks, Washington, DC, January 1981.

" Finite Element Analysis of Drilled Piers for Slope Stabilization," with J. L. Chameau, ASTM Special Technical Publication, No. 835, Laterally Loaded Deep Foundations: Analysis and Performance, 1984. Presented to the ASTM Specialty Conference on Laterally Loaded Piles, Kansas City, MO, June, 1983.

" Building Embankments with Shale", with C. W. Lovell, Proceedings of the 26th Symposium on Rock Mechanics, 1985. Presented to the 26th U.S. Symposium on Rock Mechanics, South Dakota School of Mines, MO, July, 1985.

0196z/1088

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

Haley & Aldrich, Inc.
58 Charles Street
Cambridge, MA 02141

2. Year Present Firm Established: 1957

3. Date Prepared: 12 July 1988

4. Specify type of ownership *and* check below, if applicable.

Corporation

- A. Small Business
- B. Small Disadvantaged Business
- C. Woman-owned Business

1a. Submittal is for ☒ Parent Company ☐ Branch or Subsidiary Office

5. Name of Parent Company, if any:

5a. Former Parent Company Name(s), if any, and Year(s) Established:

Haley & Aldrich (Partnership)
Established 1957

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Harl P. Aldrich, Chairman (617) 494-1606
2) Thomas K. Liu, President (617) 494-1606

7. Present Offices: City / State / Telephone / No. Personnel Each Office

7a. Total Personnel 269

58 Charles St. Cambridge, MA 02141 (617) 494-1606	622 Congress St. P. O. Box 4076 Portland, ME 04101 (207) 772-7869	110 National Drive Glastonbury, CT 06033 (203) 659-4248	Pine Tree Place 360-8 Route 101 Bedford, NH 03102 (603) 472-2054	Affiliate: H&A of New York 189 North Water St. Rochester, NY 14604 (716) 232-7386
Personnel: 181	Personnel: 20	Personnel: 32	Personnel: 11	Personnel: 25

8. Personnel by Discipline: *(List each person only once, by primary function.)*

63 Administrative	___ Electrical Engineers	___ Oceanographers	1 Groundwater Hydrologist
___ Architects	___ Estimators	___ Planners: Urban/Regional	1 Hydrogeochemist
___ Chemical Engineers	9 Geologists	___ Sanitary Engineers	19 Environmental Geologists
___ Civil Engineers	11 Hydrogeologists	86 Soils Engineers	12 Scientists
17 Construction Inspectors	___ Interior Designers	___ Specification Writers	5 Instrumentation Specialists
7 Draftsmen	___ Landscape Architects	___ Structural Engineers	36 Technicians-Explor./Lab.
___ Ecologists	___ Mechanical Engineers	___ Surveyors	1 Librarian
___ Economists	___ Mining Engineers	___ Transportation Engineers	1 Computer Technician

9. Summary of Professional Services Fees Received: (Insert index number)

Last 5 Years (most recent year first)	19 87	19 86	19 85	19 84	19 83
Direct Federal contract work, including overseas	2	5	2	2	2
All other domestic work	8	8	7	7	7
All other foreign work*	2	2	2	2	2

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Experience Profile Code Numbers for use with questions 10 and 11

001 Acoustics; Noise Abatement
002 Aerial Photogrammetry
003 Agricultural Development; Grain Storage; Farm Mechanization
004 Air Pollution Control
005 Airports; Navaids; Airport Lighting; Aircraft Fueling
006 Airports; Terminals & Hangars; Freight Handling
007 Arctic Facilities
008 Auditoriums & Theatres
009 Automation; Controls; Instrumentation
010 Barracks; Dormitories
011 Bridges
012 Cemeteries *(Planning & Relocation)*
013 Chemical Processing & Storage
014 Churches; Chapels
015 Codes; Standards; Ordinances
016 Cold Storage; Refrigeration; Fast Freeze
017 Commercial Buildings *(low rise)*; Shopping Centers
018 Communications Systems; TV; Microwave
019 Computer Facilities; Computer Service
020 Conservation and Resource Management
021 Construction Management
022 Corrosion Control; Cathodic Protection; Electrolysis
023 Cost Estimating
024 Dams *(Concrete; Arch)*
025 Dams *(Earth; Rock)*; Dikes; Levees
026 Desalinization *(Process & Facilities)*
027 Dining Halls; Clubs; Restaurants
028 Ecological & Archeological Investigations
029 Educational Facilities; Classrooms
030 Electronics
031 Elevators; Escalators; People-Movers
032 Energy Conservation; New Energy Sources
033 Environmental Impact Studies, Assessments or Statements
034 Fallout Shelters; Blast-Resistant Design
035 Field Houses; Gyms; Stadiums
036 Fire Protection
037 Fisheries; Fish Ladders
038 Forestry & Forest Products
039 Garages; Vehicle Maintenance Facilities; Parking Decks
040 Gas Systems *(Propane; Natural, Etc.)*
041 Graphic Design
042 Harbors; Jetties; Piers; Ship Terminal Facilities
043 Heating; Ventilating; Air Conditioning
044 Health Systems Planning
045 Highrise; Air-Rights-Type Buildings
046 Highways; Streets; Airfield Paving; Parking Lots
047 Historical Preservation
048 Hospital & Medical Facilities
049 Hotels; Models
050 Housing *(Residential, Multi-Family; Apartments; Condominiums)*
051 Hydraulics & Pneumatics
052 Industrial Buildings; Manufacturing Plants
053 Industrial Processes; Quality Control
054 Industrial Waste Treatment
055 Interior Design; Space Planning
056 Irrigation; Drainage
057 Judicial and Courtroom Facilities
058 Laboratories; Medical Research Facilities
059 Landscape Architecture
060 Libraries; Museums; Galleries
061 Lighting *(Interiors; Display; Theatre, Etc.)*
062 Lighting *(Exteriors; Streets; Memorials; Athletic Fields, Etc.)*
063 Materials Handling Systems; Conveyors; Sorters
064 Metallurgy
065 Microclimatology; Tropical Engineering
066 Military Design Standards
067 Mining & Mineralogy
068 Missile Facilities *(Silos; Fuels; Transport)*
069 Modular Systems Design; Pre-Fabricated Structures or Components
070 Naval Architecture; Off-Shore Platforms
071 Nuclear Facilities; Nuclear Shielding
072 Office Buildings; Industrial Parks
073 Oceanographic Engineering
074 Ordnance; Munitions; Special Weapons
075 Petroleum Exploration; Refining
076 Petroleum and Fuel *(Storage and Distribution)*
077 Pipelines *(Cross-Country—Liquid & Gas)*
078 Planning *(Community, Regional, Areawide and State)*
079 Planning *(Site, Installation, and Project)*
080 Plumbing & Piping Design
081 Pneumatic Structures; Air-Support Buildings
082 Postal Facilities
083 Power Generation, Transmission, Distribution
084 Prisons & Correctional Facilities
085 Product, Machine & Equipment Design
086 Radar; Sonar; Radio & Radar Telescopes
087 Railroad; Rapid Transit
088 Recreation Facilities *(Parks, Marinas, Etc.)*
089 Rehabilitation *(Buildings; Structures; Facilities)*
090 Resource Recovery; Recycling
091 Radio Frequency Systems & Shieldings
092 Rivers; Canals; Waterways; Flood Control
093 Safety Engineering; Accident Studies; OSHA Studies
094 Security Systems; Intruder & Smoke Detection
095 Seismic Designs & Studies
096 Sewage Collection, Treatment and Disposal
097 Soils & Geologic Studies; Foundations
098 Solar Energy Utilization
099 Solid Wastes; Incineration; Land Fill
100 Special Environments; Clean Rooms, Etc.
101 Structural Design; Special Structures
102 Surveying; Platting; Mapping; Flood Plain Studies
103 Swimming Pools
104 Storm Water Handling & Facilities
105 Telephone Systems *(Rural; Mobile; Intercom, Etc.)*
106 Testing & Inspection Services
107 Traffic & Transportation Engineering
108 Towers *(Self-Supporting & Guyed Systems)*
109 Tunnels & Subways
110 Urban Renewals; Community Development
111 Utilities *(Gas & Steam)*
112 Value Analysis; Life-Cycle Costing
113 Warehouses & Depots
114 Water Resources; Hydrology; Ground Water
115 Water Supply, Treatment and Distribution
116 Wind Tunnels; Research/Testing Facilities Design
117 Zoning; Land Use Studies
201 Hydrogeology
202 Hazardous Waste
203 Instrumentation
204 Research
205 _____

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 011	14	1,012	11) 114	57	3,137	21)		
2) 025	42	2,649	12) 201	171	2,505	22)		
3) 033	6	960	13) 202	590	4,881	23)		
4) 042	26	5,889	14) 203	19	885	24)		
5) 046	45	2,810	15) 204	5	352	25)		
6) 087	25	5,477	16)			26)		
7) 095	22	670	17)			27)		
8) 097	1,334	19,905	18)			28)		
9) 106	53	1,906	19)			29)		
10) 109	19	2,592	20)			30)		

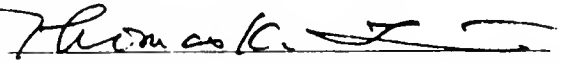
11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
097	C	1 75 State Street Building Boston, MA	The Beacon Companies Boston, MA	300	Underway
097	C	2 Suffolk County Jail Boston, MA	State of Massachusetts Department of Planning and Operations Boston, MA	100	Underway
097	C	3 Cutter Financial Center, Design Phase Hartford, CT	Cutter Realty Group Hartford, CT	30	Underway
011 046 097	C	4 Nashua-Hudson Circumferential Highway Preliminary Field Services Nashua, NH	New Hampshire Department of Public Works and Highways Concord, NH	900	Underway
097	C	5 Boston Main and East Side Interceptor Boston, MA	Boston Water and Sewer Commission Boston, MA	228	Underway
011 097	C	6 Charter Oak Bridge Hartford, CT	Connecticut Department of Transportation Hartford, CT	367	Underway
097	c	7 Emerson College New Campus Lawrence, MA	Emerson College Boston, MA	217	Underway

097 109	C	8 Rehabilitation and Expansion of the Cairo Wastewater System Cairo, Egypt	The Arab Republic of Egypt	555	Underway
202	P	9 Remedial Action Plans for Hazardous Waste Sites, Hanscom Air Force Base Bedford, MA	U.S. Army Corps of Engineers Omaha, NE	2,000	Underway
097 042	C	10 Explosives Handling Wharf Kings Bay, GA	U.S. Navy	276	1987
097 109	C	11 MBTA Southwest Corridor Project Sections I and II Boston and Roxbury, MA	Mass. Bay Transportation Authority Boston, MA	1,160	1987
097 042	C	12 Rowes Wharf Development Boston, MA	The Beacon Companies Boston, MA	400	1987
097	C	13 The Danbury Fair Danbury, CT	Wilmorite, Inc. Rochester, NY	396	1987
203 204	P	14 Spread Footings for Highway Bridges Various U.S. Locations	U.S. Highway Dept. of Transportation Federal Highway Administration Washington, DC	485	Underway
097 046 106	C	15 I-295 Interchange Complex Portland, ME	Maine Department of Transportation Augusta, ME	61	1986
097 201	C	16 Fort Drum Infrastructure II Project Watertown, NY	U.S. Army Corps of Engineers	1,000	1986
097 201	C	17 Hynes Convention Center Prudential Center, Boston, MA	Mass. Convention Authority Boston, MA	962	1986
097 203	C	18 The Gallery at Harbor Place Baltimore, MD	The Rouse Company Baltimore, MD	339	1986
097 203	C	19 International Place Boston, MA	The Chiofaro Company Boston, MA	300	1986

097 114 201	C	20 IBM Headquarters Facility Somers, NY	IBM Corporation Somers, NY	1,192	1986
202 114	P	21 Groundwater Contamination Study Dover, MA	Texaco, Inc. Cherry Hill, NJ	310	1985
114 201	P	22 Lime Lagoon Closure Peabody, MA	Eastman-Gelatine Corp. Peabody, MA	125	1985
097 025 203	P	23 Great Salt Lake Causeway Utah	Southern Pacific Transportation Co. San Francisco, CA	1,200	1984
097 046 095	P	24 Franconia Notch Parkway Lincoln, NH to Franconia Notch, NH	State of New Hampshire Dept. of Public Works and Highways	920	1984
097 106	C	25 Copley Place Boston, MA	Urban Investment and Development Corp. Boston, MA	755	1984
097 011	C	26 Rouses Point Bridge Alburg, VT to Rouses Point, NY	State of Vermont Transportation Agency, Montpelier, VT	175	1984
097 033 109	C	27 Third Harbor Tunnel, Interstate 90/ Central Artery, Interstate 93 EIS/EIR Boston, MA	Executive Office of Transportation and Construction, Massachusetts Dept. of Public Works, Boston, MA	330	1983
097 109	C	28 Southwest/Westpark Transit Project Houston, TX	Houston Transit Authority Houston, TX	755	1983
097 109	C	29 Phase II Combined Sewer Overflow Abatement Project Rochester, NY	Monroe County Pure Water District Rochester, NY	1,200	1983
097 109 203	C	30 MBTA Red Line Extension Porter Square Subway Station Cambridge, MA	Massachusetts Bay Transportation Authority Boston, MA	821	1983

12. The foregoing is a statement of facts

Signature:  Typed Name and Title: Thomas K. Liu, President

Date: 12 July 1988

STANDARD FORM (SF) 255
Architect-Engineer Related Services for Specific Project

1. Project Name / Location for which Firm is Filing:

Boston Redevelopment Authority
Shawmut Avenue Reconstruction
Boston, Massachusetts

2a. *Commerce Business Daily* Announcement Date, if any:

2b. Agency Identification Number, if any:

3. Firm (or Joint-Venture) Name & Address

Haley & Aldrich, Inc.
58 Charles Street
Cambridge, MA 02141

3a. Name, Title & Telephone Number of Principal to Contact

Martin C. Murphy, Senior Vice President
(617) 494-1606

3b. Address of office to perform work, if different from Item 3

Same as above

4. Personnel by Discipline:

45	Administrative	___	Electrical Engineers	___	Oceanographers	___	Environmental Geologists
___	Architects	___	Estimators	___	Planners: Urban/Regional	7	Environmental Scientists
___	Chemical Engineers	8	Geologists	___	Sanitary Engineers	16	Technicians-Explor./Lab.
___	Civil Engineers	5	Hydrologists/geologists	67	Soils Engineers	5	Instrumentation Specialists
15	Construction Inspectors	___	Interior Designers	___	Specification Writers	1	Librarian
5	Draftsmen	___	Landscape Architects	___	Structural Engineers	1	Computer Specialist
___	Ecologists	___	Mechanical Engineers	___	Surveyors	___	
___	Economists	___	Mining Engineers	___	Transportation Engineers	182	Total Personnel

5. If submittal is by Joint-Venture list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm: (Attach SF 254 for each if not on file with Procuring Office.)

5a. Has this Joint-Venture previously worked together? ☐ yes ☐ no

7. Brief Resume of Key Persons, Specialists, and Individual Consultants Anticipated for this Project

a. Name & Title: Martin C. Murphy Senior Vice President	a. Name & Title: Michael W. Oakland Staff Engineeer
b. Project Assignment: Associate-in-Charge	b. Project Assignment: Project Geotechnical Engineer
c. Name of Firm with which associated: Haley & Aldrich, Inc.	c. Name of Firm with which associated: Haley & Aldrich, Inc.
d. Years experience: With This Firm 24 With Other Firms 9	d. Years experience: With This Firm 2 With Other Firms 0
e. Education: Degree(s) / Year / Specialization B.S. 1951 Civil Engineering	e. Education: Degree(s) / Years / Specialization B.S. 1980 Civil Engineering M.S. 1981 Geotechnical Engineering Ph.D. 1986 Geotechnical Engineering
f. Active Registration: Year First Registered/Discipline Massachusetts 1959 Civil Engineering	f. Active Registration: Year First Registered/Discipline 1980 E.I.T. Pennsylvania
g. Other Experience and Qualifications relevant to the proposed project: Project engineer and project manager for geotechnical aspects of a broad range of projects. Experience includes buildings, waterfront structures, large site development projects such as regional shopping centers, permanent and temporary lateral earth support systems, water and wastewater treatment plants, pipelines, highways, bridges and large storage tanks for liquefied natural and propane gas, petroleum and municipal water systems. Experience with buildings ranges from single story shopping centers to high rise buildings in urban locations. Recent project experience includes: o Rte. 114 Industrial Condominiums, N. Andover, MA o Proposed Marriott Hotel, Rte. 9, Framingham, MA o 4-story Office Building, Wakefield, MA o Doctor's Office Building, N. E. Memorial Hospital, Stoneham, MA.	g. Other Experience and Qualifications relevant to the proposed project: Mr. Oakland has participated in a wide range of geotechnical engineering investigations for various projects involving low to medium rise buildings, parking garages, reservoirs and dams, and the design and review of a broad range of lateral support systems. Relevant project experience includes: o Project engineer on a major building constructed at 745 Atlantic Avenue, Boston, MA o Subsurface evaluations and foundation recommendations for the Chiller Plant at MIT Lincoln Laboratory, Lexington, MA o Raytheon MMIC Facility building foundation and underdrainage system recommendations, Andover, MA o Salem Roadway Reconstruction, Topsfield, MA

8. Work by Firm or Joint Venture Members **which Best Illustrates Current Qualifications Relevant to this Project** (List not more than 10 Projects)

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Owner's Name & Address	d. Completion Date (actual or estimated)	a. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
Statewide General Services Contract #P82-1400-M1A Massachusetts	One-year general services contract for highway, bridge, water supply, and sewerage projects.	Metropolitan District Commission Boston, Massachusetts	1987		30 (fee)
MBTA Southwest Corridor Boston to Forest Hills, MA	Coordinating geotechnical consultant for Sections I, II and III and geotechnical design consultant for Sections I and II. Geotechnical studies associated with relocation of an existing elevated MBTA Orange Line-SW structure and reconstruction of AMTRAK railroad tracks into cut-and-cover and depressed structures for a five track alignment. Project included 4 1/2 miles of alignment with eight rapid transit stations and one major AMTRAK station. Excavation support in Section I through Boston's Back Bay provided by concrete diaphragm walls constructed using the slurry trench method. Minimizing damage to buildings immediately adjacent to the excavations was a major design consideration.	Massachusetts Bay Transportation Authority Boston, MA	1987		1160 (fee)

8. Work by Firm or Joint Venture Members **which Best Illustrates Current Qualifications Relevant to this Project** (List not more than 10 Projects)

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
MBTA Modernization Program Washington Street Station Boston, MA	Geotechnical consultant for platform lengthening and modernization of subway station. Cut-and-cover construction, with design emphasis on integration of existing construction with new and adjacent building protection. Design studies have focused on integration of existing construction with new and minimizing damage to existing structures to remain due to con struction loading conditions. Minimizing traffic impacts through construction sequencing and decking, and adjacent building protection were considered in design as applicable to the project.	Massachusetts Bay Transportation Authority	1987		102 (fee)
I-295 Interchange Project Tukey's Bridge Portland, Maine	Geotechnical investigations and engineering studies for 4 new bridges, 4 widened bridges, new approach embankments up to 30 ft. in height on clay foundation soils, and approximately 600 l.f. of retaining walls.	Maine Department of Transport- Augusta, Maine	1985		87 (fee)

8. Work by Firm or Joint Venture Members which Best Illustrates Current Qualifications Relevant to this Project (List not more than 10 Projects)

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
Southeast Expressway Rehabilitation Mass. DPW Contract No. 22680	Foundation investigation, evaluation and recommendations for retaining walls, and embankment modifications to construct acceleration/deceleration lanes within existing R.O.W., including one location near Tenean Beach and another near Boston Gas Co. tanks.	Mass. Dept. of Public Works Boston, Massachusetts	1984		16 (fee)
Franconia Notch Parkway I-93, New Hampshire	Geotechnical investigation for 10 miles of Interstate Highway including 12 bridge structures.	New Hampshire Department of Public Works & Highways	1984		920 (fee)
D Street Overflow Conduit Boston, MA	Subsurface exploration and geotechnical design recommendations for replacement of a 48 in. dia. conduit and repair or replacement of a 8.5 ft. by 7.5 ft. rectangular conduit.	Boston Water and Sewer Commission	1983		25 (fee)
Avis Express Facility Logan Airport Boston, Massachusetts	Because of pavement problems on other facilities, H&A was retained to investigate subgrade conditions and recommend pavement cross sections for passenger car areas and bus routes. Services continued through construction monitoring.	Avis Rent-a-Car Systems Garden City, New York	1982		2 (fee)

8. Work by Firm or Joint Venture Members **which Best Illustrates Current Qualifications Relevant to this Project** (List not more than 10 Projects)

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
Improvements to MDC Northern Low Service Section 57 Chelsea/Everett, Massachusetts	Developed subsurface data related to existing pipeline, especially factors influencing corrosion and subsurface data to be used in evaluation of various possible pipeline alternatives.	Metropolitan District Commission Boston, Massachusetts	1982		9 (fee)
Sanitary System, MPA Contract No. 55 013C, Northern Ave./ Commonwealth Flats	Subsurface and foundation design studies for a pump station and 15 in to 30 in. sewer lines constructed on friction piles across the Commonwealth Flats development area and within Northern Avenue.	Massachusetts Port Authority Boston, Massachusetts South Boston, Massachusetts	1982		37 (fee)

10. Use this space to provide any additional information or description of resources supporting your firm's qualifications for the proposed project

Haley & Aldrich, Inc. is a firm of consulting engineers, geologists and hydrogeologists practicing in the field of geotechnical engineering. Services include soil and rock mechanics, foundation engineering, engineering geology, hydrogeology, engineering geophysics, seismic risk analyses and earthquake engineering. In the 31 years of its geotechnical practice, Haley & Aldrich, Inc. has participated in more than 8,000 projects, primarily as professional consultants to engineers, architects, contractors, government agencies and private industries. We provide services on projects throughout the United States and at numerous foreign locations, although our services remain concentrated in New England. Since 1957, Haley & Aldrich has served as the geotechnical consultant on more than 5,000 projects in the State of Massachusetts.

The numerous projects completed to date by Haley & Aldrich have involved sites with a wide range of subsurface conditions and building geometries requiring a diversity of foundation types, temporary earth support, underpinning and subgrade preparation techniques including:

- Preload or surcharging site prior to construction of roadways, embankments and shallow foundations.
- Underpinning to support existing structures during adjacent construction.
- Lateral earth support to maintain stable excavations.
- Grouting to improve subsurface soils where loose, pervious or other unacceptable subgrade conditions exist.
- Deep pile foundations (precast, concrete filled pipe, steel H sections and step tapered) for sites where unsuitable overburden soils were present near ground surface.
- Floating foundations, consisting of mats supported on soft clay.
- Footing foundations founded on natural soil or placed and compacted structural fill.
- Caissons, either straight shaft or belled.

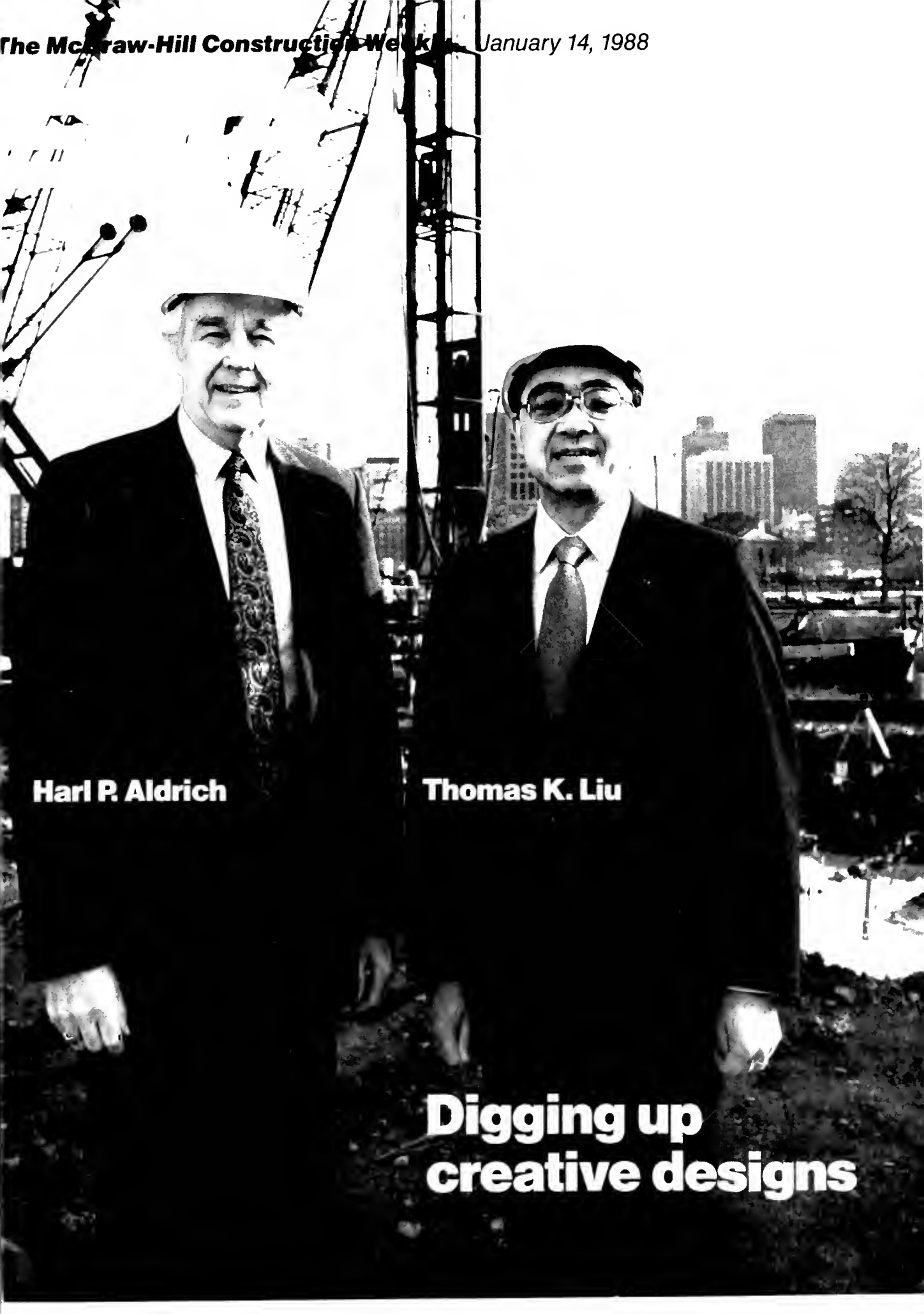
Haley & Aldrich has extensive past project files covering Massachusetts which have valuable information relative to soil and foundation conditions encountered in our past project experience. We have the experienced personnel necessary to devote to the project who will work diligently and effectively to meet project schedules and time commitments.

11. The foregoing is a statement of facts.

Signature: _____ Typed Name and Title: Martin C. Murphy, Sr. Vice President

Date: 27 October 1988

The McGraw-Hill Construction Weekly January 14, 1988



Digging up creative designs

Pioneering earthy solutions

No problem too deep for geotechnical engineer Haley & Aldrich

or Haley and Aldrich Inc., going underground and keeping a low profile are not synonomous. The Cambridge, Mass.-based geotechnical engineer has built a $16-million firm on its earthy expertise.

The 30-year-old firm has worked around the country on projects that are as high-profile as the Trident submarine base in Bangor, Wash., the Houston subway and the Great Salt Lake causeway.

The firm also works internationally. Projects overseas include a water supply system for Quito, Ecuador, a hospital in Karachi, Pakistan, and a wastewater system in Cairo, Egypt. But most of H&A's work is in New England. Of the 10 largest projects built in Boston in the last three years, H&A worked on all but one.

To chairman Harl P. Aldrich and president Thomas K. Liu, the strata of man-made fill, organic soil, Boston blue clay and glacial till beneath Boston are as clear as a map to the drivers on its streets. Their intimate knowledge of underground Boston has enabled them to adopt methods never before used in the city and to devise new solutions of their own. That's why when Haley and Aldrich dig down in the soft stuff, their conclusions are based on rock-solid experience.

"Exploratory work for them is really confirmatory work," says George Tamaro, of Mueser Rutledge Consulting Engineers, New York City. "They have historical perspective on everything that's going on up there. They know what's beer done, how it was done and what to do about it."

But it is the firm's recent directions in hydrogeology tha Liu is really excited about. Says Liu: "I expect most of th company's future growth to come from hydrogeology. It's th geotechnical engineering discipline that's had the greates recent advances," and "H&A is ahead of the rest of the coun try in applying them." At the beginning of the 1980s, thre members of the staff specialized in the search for new drink ing water resources and the control and cleanup of ground water contamination. Today, that number has grown to 4 hydrogeologists.

Firsts. On Liu's first project as an H&A employee in 1969– the 40-story building at 1 Beacon St.—he used tie-backs fo lateral support of a conventional beam-and-lagging excavatio for the first time in a major Boston building. Says Liu, "W didn't invent the technique, but we had studied it and mad use of it." Liu also innovatively used photoelastic load cell more conventionally used in manufacturing, to monito changes in the load of a tie-back anchorage.

Consistent monitoring of an excavated site controls the ris of damage to adjacent buildings from soil movement. In th case of the Massachusetts Bay Transportation Authority's ne Harvard Square station in Cambridge, H&A had urged tiec back slurry trench walls that almost abutted the buildings o

Chairman Aldrich and President Liu both draw on past academic careers in finding solutions to underground problems.

Picture Credits

Cover, 3 top, 24, 25, 26—Christopher Barnes;

unnel excavation for Porter Square Station in Boston was designed and monitored by Haley & Aldrich.

ıe station's perimeter. "We watched a couple of the build-ıgs with great concern," says MBTA's John E. Powers Jr., but e recalls, "H&A stayed with it, monitoring for movement. 'hey said it would be OK, and it was."

Aldrich also notes that a number of the new ideas H&A ıtroduced into geotechnical practice in New England—such s sand drains, tie-backs, slurry trench diaphragm walls and ımultaneous up-and-down construction were imported from .urope.

Aldrich explains, "In Europe, the contractor is responsible ·om design through construction. He looks for ways to cut osts, and he's willing to take risks." But in the U.S., "there vas less incentive to innovate, more concern for liability, less villingness to gamble." But Aldrich sees a trend away from he fragmentation of responsibility that char-cterizes much of U.S. construction. "Europe vas ahead of the U.S. in the past, but I think ve're on a par with them now," he says.

Up and down. H&A's first application of a ied-back slurry wall excavation was at 60 State Street, a 38-story office tower in Bos-on's financial district. Later, H&A introduced simultaneous up-and-down construction to New England at Rowes Wharf, also in Boston (ENR 3/20/86). Rowes Wharf, a $193-million project on the edge of Boston Harbor, in-cludes hotel, office and residential space and a five-level underground garage. "Haley and Aldrich's up-down construction recommenda-ion was an innovative, time-saving solution to he complex problems of constructing a major ınd secure substructure right next to the har-bor," remarks James M. Becker, president of Beacon Construction Co., Boston, the con-ractor for Rowes Wharf. Becker estimates hat the technique saved four to six months on the construction of each building com-bared with conventional construction.

The partnership, begun by Harl P. Aldrich ınd James F. Haley in 1957, was the first geotechnical firm in New England. That year, 90 projects kept the two partners and seven employees busy. Haley had left the post of deputy chief in the foundation and materials division of the U.S. Corps of Engineers, and Aldrich had been assistant professor of soil mechanics at the Massachusetts Institute of Technology. "We each put in $3,000," Aldrich recalls. "Our wives wondered what we were doing. So did many of our first potential customers. We spent a lot of time explaining that we are not just takers of test borings—that our objective was to interpret soils and make engineering recommendations for earthworks and foundation design."

Thirty years and 7,000 projects later, H&A has five offices, one each in Massachusetts, Maine, New Hampshire and Connecticut, and an affiliate company in Rochester, N.Y. Aldrich,

Sewer tunnels show firm's deep-rock talent.

Cleanup at Hanscom Air Force Base is an example of H&A's hazardous-waste work.

Rowes Wharf introduced up-and-down construction to New England.

now the board chairman and the sole founding partner since Haley died in 1975, concentrates on specialized foundation design and construction problems. Ownership of the firm is now shared by 23 staff members, all full-time professional employees. Liu, president since 1982, came to H&A from a professorship at the University of Illinois because, he recalls, "I was more interested in having my knowledge put to use directly, rather than by others." Liu says he came to H&A because he was attracted by the firm's "professionalism, diversity of projects and services."

H&A has worked on more than 60 major building projects, investigating the subsurface conditions, designing the foundation system and monitoring the foundation's construction. The scope of their work also encompasses hydrogeology, lateral supports, embankments, waterfront structures, environment control and wastewater systems. H&A's geologists, biologists and toxicologists worked on over 150 projects last year, and contributed about a third of H&A's revenues.

Founding member. H&A is one of the 10 founding members of the Association of Soil and Foundation Engineers, which began in 1968. Aldrich was instrumental in forming the captive liability insurance company called TERRA begun by the ASFE in 1971 for its members. ASFE's initial goal was to develop policies and standards that would enhance the profession's standing with insurers. This was a reaction to the withdrawal of professional liability insurance from geotechnical engineers in the late 1960s after large numbers of damage claims from California landslides. At H&A Liu says, "We're human. We've had our share of problems and our share of errors and have disgruntled clients." Still, he explains, "the best risk insurance is to constantly monitor construction."

Aldrich, who served in several terms as the president of TERRA Insurance Ltd., of Bermuda, explains members "have a vested interest in liability coverage so there is a strong incentive to practice quality work. Not everyone who applies is accepted."

In addition, Thomas B. Cohn, ASFE's executive director, says, "Hart, along with Bramlette McClelland [of McClelland Engineers Inc., Houston] was one of the most active people in putting together the peer review program." The voluntary program helps firms get advice from their peers about business practice, quality control, liability and loss prevention. Cohn says that the program, adopted by the American Consulting Engineers Council, "is really the core used by other design professionals."

But even though Aldrich believes that geotechnical engineers are now well respected and that, by and large, builders today accept the new approaches they recommend because "our profession has earned esteem," not everyone who works with them feels completely at ease. "I have a love-hate relationship with these geotechnical people," says MBTA's Powers. "I love them because they are usually right, and I guess that's why I hate them. Your heart's in your mouth when you do some of the things they think you can do." ■

By Herb Lass and Susan Browne in Boston

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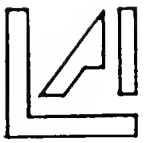

CONSULTING ENGINEERS

Lin Associates, Inc, established in 1978, is a minority owned engineering firm and a small business concern serving both the private industry, the State, and the Federal Government. The firm provides full range of services in structural engineering, civil engineering, and construction managements. The professional staff of Lin Associates, consisting of engineers and drafters, offers a broad base of design expertise drawn from a variety of projects conducted in the United States and abroad. The firm is proud of its high degree of commitment to excellence as well as its responsiveness to client needs.

Lin Associates' structural division undertakes the design and analysis of various concrete, steel and timber structures. With combination of talents and design experience, the professional engineers are capable of performing structural design ranging from simple residential units to complex structures such as radar towers, multistory industrial, commercial and residential buildings, sanitary or environmental facilities, pipe and equipment supports. The design capabilities are further enhanced by a modern computer facility that support the in-house state of the art comprehensive structural analysis and design program. The in-house computer facility has the capacity to communicate with outside main frames structural softwares that are more efficient in handling larger and highly complex structures.

Recent design projects include the 20-million Dollars three story concrete and steel frame structures for the New Terminal and Concourse at Bradley International Airport, Windsor Locks, CT. scheduled for completion at 1986; The 26-million Dollars Waste Water Treatment Facilities at Westborough, MA. that consists of prefabricated metal building, several administrative and control buildings, 120 feet diameter clarifier tanks, 300 by 160 feet concrete oxydation tanks, 10 by 10 feet tunnels interconnecting the various pump stations and buildings, and various site structures; Renovation of a six story 130 years old brick building in Boston and its conversion to condominium and office building; Evaluation and modifications of the crane girders at the Watervliet Arsenal in Albany, NY.. Lin Associates is also involved in the 10-million Dollars modifications of Long Range Radar Towers in the Alaska-Canada Arctic Region.

The Civil Engineering division, whose principals have extensive experience in design, undertakes the planning and design of various transportation facilities that include interstate highways, federal aid roadways, and highway bridges. The division is also responsible for the design of drainage systems, various site facilities, and survey. Computers are used extensively for analysis, establish coordinate geometry, and estimating.

Recent projects undertaken by the civil engineering staff include the 1.5-million Dollars Roadway reconstruction at Hanscom AFB, Bedford, MA.; Evaluation and Ratings of 100 bridges in various cities of Massachusetts; Highrock Street over MBTA railroad bridge at Needham, MA.; Rehabilitation of 18 bridges on Interstate - 91 in Northampton, Holyoke, and Greenfield, MA.; Walpole Sewer Survey for the town of Walpole, MA.

Lin Associates provides the services of field engineers during the construction phase. These services include review and approval of shop drawings, materials, and equipment supplied by manufacturers to assure compliance with the specifications. The firm also performs inspection of work done by the contractor to ensure conformity with the design and specifications, as well as fulfillment of his contractual obligations. Coordination with various regulatory agencies is always maintained by this division to ensure compliance with the codes and regulations as the job progresses.

LIN ASSOCIATES, INC.
ETHNIC PROFILE
JANUARY 1988

JOB CATEGORIES	OVERALL TOTALS	WHITE	BLACK	HISPANIC	ASIAN
Officials and Managers	4	1			3
Professionals	10	3		1	6
Technicians	6	1		1	4
Office and Clerical	1		1		
TOTAL	21	5	1	2	13

CLIENT REFERENCES

Weston & Sampson Engineers, Inc.
One Pleasure Island Road
Wakefield, MA 01880
Mr. Leo Peters, President
(617) 246-4410

Metcalf & Eddy, Inc.
10 Harvard Mill Square
Wakefield, MA 01880
Mr. Edward Greco, Vice President
(617) 246-5200

Maguire Group, Inc.
60 First Avenue
Waltham, MA 02254
Mr. Russell Tong, Vice President
(617) 890-0100

The Commonwealth of Massachusetts
Department of Commerce and Development
Lowell Saltonstall Building, Government Center
100 Cambridge Street, Boston 02202

July 11, 1985

727-322

Chan K. Lin, President
Lin Associates, Inc.
2001 Beacon Street
Boston, Mass. 02146

Dear Mr. Lin:

The State Office of Minority Business Assistance (SOMBA) is pleased to notify you that your firm was reviewed on 07/11/85 and recertified as a minority owned business enterprise (MBE) under the catergory of Architects, Engineers The company will be listed in the SOMBA Directory which is published regularly and in the Massachusetts Central Register which is also published at regular intervals.

Additionally, the SOMBA Directory is sent to other state agencies and authorities such as the Massachusetts Port Authority, Turnpike Authority, Department of Public Works, cities and towns and many other public and private organization who seek to fulfill MBE utilization requirements.

Certification is not a fixed designation and SOMBA reserves the right to monitor your company and to conduct periodic reviews of your company's books, contracts, company structure, facilities, job locations, and to withdraw its certification of your firm should this become necessary.

On or before your firm's certification anniversary date of (07/11/86), plan to send to us the following documents:

(1) The latest company financial statement
(2) The latest U.S. Corporate Tax Return or your U.S. 1040 Schedule C
(3) An updated work history
(4) Corporations submit annual certification of Condition. Sole Proprietor and Partnerships sumbit a notarized statement indicating whether there has been any changes in the firm's legal structure, ownership or control.

Sincerely,

Danette Jones

Danette Jones
Chair, Certification Review Board
State Office of Minority Business Assistance

REV0384

CHAN K. LIN, P.E.

EDUCATION:

Northeastern University
BS., 1960 Civil Engineering
MS., 1965 Structural Engineering

REGISTRATION & MEMBERSHIP

Professional Engineer, registered in the states of Connecticut, Maine, Massachusetts, New Hampshire, New York & Vermont.
Certificate of Qualification, The National Council of Engineering Examiners.
Boston Society of Civil Engineers, Section of American Society of Civil Engineers; Society of American Military Engineers.
American Consulting Engineers Council; American Concrete Institute; American Institute of Steel Construction.

EXPERIENCE:

1978 - Present
President
LIN ASSOCIATES, INC.
Boston, MA.
In charge of Engineering, design of buildings, bridges, and radar towers.

1971 - 1978
President and Chief Structural Engineer
ICO Systems, Inc.
Boston, Mass.
Responsible for the design of multi-story buildings, rehabilitation projects, parking structures, school and commercial buildings.

1969 - 1971
Associate and Chief Structural Engineer
Sepp Firnkas Engineering Co., Inc.
Boston, Mass.
Responsible for multiple projects, preliminary studies, supervision of design, directing preparation of contract drawings, specifications, and inspection of construction.

1966 - 1969
Structural Project Engineer
Whitman & Howard, Inc.
Wellesley, Mass.
Responsible for design of bridges, water and sewage treatment structures, industrial and institutional buildings.

CHAN K. LIN, P. E.
(Continued)

1961 - 1966
Resident Engineer and Structural Project Engineer
Congdon, Gurney & Towle, Inc.
Boston, Mass.
Resident Engineer on construction project.
Responsible for design of buildings and bridge structures, retaining walls, and marine structures.

1960 - 1961
Civil Engineer
Clarkeson Engineering Co., Inc.
Boston, Mass.
Responsible for design of interstate highway interchange systems.

EDWARD W. CHISHOLM, P.E.

EDUCATION

Northeastern University
B.S., 1964, Civil Engineering

REGISTRATION & MEMBERSHIP

Registered Professional Engineer - Massachusetts
Member - Boston Society of Civil Engineers
Section of American Society of Civil Engineers
Member - Prestressed Concrete Institute

EXPERIENCE

1987 - Present	Project Manager Lin Associates, Inc. Boston, Mass.
1968 - 1987	Chief Structural Engineer Maguire Group Inc. Waltham, Mass. Responsible for design of highway and railroad bridges, subway and marine structures and commercial buildings. Responsible for inspection of bridges and parking structures and modifications to existing structures.
1964 - 1968	Assistant Bridge Engineer, State of New York Albany, NY. Responsible for the design of highway and railroad bridges

PROFESSIONAL EXPERIENCE

CE Maguire, Inc.
Waltham, MA

CHIEF STRUCTURAL ENGINEER
December, 1968

TECHNICAL ACCOMPLISHMENTS

Responsible for structural design of major bridge projects including extensive utilization of computer programs, contributing technical expertise to facilitate the writing of new programs or the updating of existing programs as necessary.

o Route I-93/16 INTERCHANGE-Medford, MA

Direct and review design of five (5) new bridges, including two curved girder viaducts and numerous walls, checking all construction documents for accuracy and compliance with Mass. DPW and AASHTO requirements. Function as liason between Mass. DPW Bridge Section and CE Maguire. Project is currently under design.

o WASHINGTON, D.C. METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)
U STREET STATION GREENBELT ROUTE

Promoted innovative design effort of this underground, arched-roof structure, unique in that slurry walls are part of the permanent structure and act compositely with cast-in-place walls. The combination arched-roof structure with composite slurry wall construction is state-of-the-art design in the United States. Construction is about to commence.

Authored an addendum to the slurry wall report which further supported the design criteria.

o BRIDGE LIVE LOAD RATING FOR OFF SYSTEM BRIDGES, MA

Prepared or reviewed analyses and live load rating reports for over 100 bridges, visiting each bridge location to determine validity of existing inspection reports prior to submittal to Mass. DPW.

o MBTA RED LINE VENT SHAFTS

Directed and reviewed design of five (5) vent shafts for the Red Line subway, two of which were integrated into the existing Ashmont area subway and three which formed part of the design of the Red Line extension from Harvard Square to Route 2, including provisions for emergency egress. Construction has been completed on the three vent shafts for the Red Line extension.

o MASSACHUSETTS BRIDGE REPLACEMENT PROGRAM

Structural design (PS & E) of ten (10) bridges, interfacing with Mass. DPW Bridge Section, as required.

o ROUTE 25 AND ROUTE I-190, MA

Lead the design (PS & E) effort for over thirty (30) bridges, including one railroad bridge, utilizing simple and continuous span prestressed concrete beams and simple and continuous span welded plate girders. The piers were reinforced concrete tee or rigid frame type. Route I-190 contained the first Reinforced Earth walls constructed for the Mass. DPW. The 700 foot (+) long Route I-190 over Quinapoxet River Bridge is the highest in Worcester County. This effort resulted in ten construction contracts.

o ROUTE 7 - NORWALK, CT

Designed ten (10) bridges, including a 4-level interchange, for both straight and curved steel box girders. The piers were reinforced concrete tee piers with post-tensioned pier caps.

o MFB INSURANCE COMPANY OFFICE BUILDING - RHODE ISLAND
MUSEUM OF SCIENCE PARKING GARAGE - BOSTON, MA

Assisted architectural staff in building design, which included post-tensioned and pre-

STANDARD FORM (SF)

254

Architect-Engineer and Related Services Questionnaire

1. Firm Name / Business Address:

LIN ASSOCIATES, INC.
2001 Beacon Street
Boston, MA 02146

1a. Submittal is for ☒ Parent Company ☐ Branch or Subsidiary Office

2. Year Present Firm Established: 1978

3. Date Prepared: September 30, 1988

4. Specify type of ownership *and* check below, if applicable.

Corporation DUNS #04-640-5916

- [ ] A. Small Business
- [x] B. Small Disadvantaged Business
- [ ] C. Woman-owned Business

5. Name of Parent Company, if any:

5a. Former Parent Company Name(s), if any, and Year(s) Established:

LIN ASSOCIATES, 1977

6. Names of not more than Two Principals to Contact: Title / Telephone

1) Chan K. Lin, President (617) 566-4216
2) Robert D. Buckley, Vice President 566-4216

7. Present Offices: City / State / Telephone / No. Personnel Each Office

7a. Total Personnel 23

2001 Beacon St.
Boston, MA 02146

(617) 566-4216

8. Personnel by Discipline: *(List each person only once, by primary function.)*

2 Administrative	___ Electrical Engineers	___ Oceanographers	___
3 Architects	___ Estimators	___ Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___
4 Civil Engineers	___ Hydrologists	___ Soils Engineers	___
___ Construction Inspectors	___ Interior Designers	___ Specification Writers	___
5 Draftsmen	___ Landscape Architects	9 Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	___ Surveyors	___
___ Economists	___ Mining Engineers	___ Transportation Engineers	___

9. Summary of Professional Services Fees Received: (Insert index number)

Last 5 Years (most recent year first)

	19 87	19 86	19 85	19 84	19 83
Direct Federal contract work, including overseas	2	3	3	3	___
All other domestic work	4	4	4	4	3
All other foreign work*	___	___	___	___	___

*Firms interested in foreign work, but without such experience, check here: ☐

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Experience Profile Code Numbers for use with questions 10 and 11

001 Acoustics; Noise Abatement
002 Aerial Photogrammetry
003 Agricultural Development; Grain Storage; Farm Mechanization
004 Air Pollution Control
005 Airports; Navaids; Airport Lighting; Aircraft Fueling
006 Airports; Terminals & Hangars; Freight Handling
007 Arctic Facilities
008 Auditoriums & Theatres
009 Automation; Controls; Instrumentation
010 Barracks; Dormitories
011 Bridges
012 Cemeteries *(Planning & Relocation)*
013 Chemical Processing & Storage
014 Churches; Chapels
015 Codes; Standards; Ordinances
016 Cold Storage; Refrigeration; Fast Freeze
017 Commercial Buildings *(low rise);* Shopping Centers
018 Communications Systems; TV; Microwave
019 Computer Facilities; Computer Service
020 Conservation and Resource Management
021 Construction Management
022 Corrosion Control; Cathodic Protection; Electrolysis
023 Cost Estimating
024 Dams *(Concrete; Arch)*
025 Dams *(Earth; Rock);* Dikes; Levees
026 Desalinization *(Process & Facilities)*
027 Dining Halls; Clubs; Restaurants
028 Ecological & Archeological Investigations
029 Educational Facilities; Classrooms
030 Electronics
031 Elevators; Escalators; People-Movers
032 Energy Conservation; New Energy Sources
033 Environmental Impact Studies, Assessments or Statements
034 Fallout Shelters; Blast-Resistant Design
035 Field Houses; Gyms; Stadiums
036 Fire Protection
037 Fisheries; Fish Ladders
038 Forestry & Forest Products
039 Garages; Vehicle Maintenance Facilities; Parking Decks
040 Gas Systems *(Propane; Natural, Etc.)*
041 Graphic Design
042 Harbors; Jetties; Piers; Ship Terminal Facilities
043 Heating; Ventilating; Air Conditioning
044 Health Systems Planning
045 Highrise; Air-Rights-Type Buildings
046 Highways; Streets; Airfield Paving; Parking Lots
047 Historical Preservation
048 Hospital & Medical Facilities
049 Hotels; Models
050 Housing *(Residential, Multi-Family; Apartments; Condominiums)*
051 Hydraulics & Pneumatics
052 Industrial Buildings; Manufacturing Plants
053 Industrial Processes; Quality Control
054 Industrial Waste Treatment
055 Interior Design; Space Planning
056 Irrigation; Drainage
057 Judicial and Courtroom Facilities
058 Laboratories; Medical Research Facilities
059 Landscape Architecture
060 Libraries; Museums; Galleries
061 Lighting *(Interiors; Display; Theatre, Etc.)*
062 Lighting *(Exteriors; Streets; Memorials; Athletic Fields, Etc.)*
063 Materials Handling Systems; Conveyors; Sorters
064 Metallurgy
065 Microclimatology; Tropical Engineering
066 Military Design Standards
067 Mining & Mineralogy
068 Missile Facilities *(Silos; Fuels; Transport)*
069 Modular Systems Design; Pre-Fabricated Structures or Components
070 Naval Architecture; Off-Shore Platforms
071 Nuclear Facilities; Nuclear Shielding
072 Office Buildings; Industrial Parks
073 Oceanographic Engineering
074 Ordnance; Munitions; Special Weapons
075 Petroleum Exploration; Refining
076 Petroleum and Fuel *(Storage and Distribution)*
077 Pipelines *(Cross-Country—Liquid & Gas)*
078 Planning *(Community, Regional, Areawide and State)*
079 Planning *(Site, Installation, and Project)*
080 Plumbing & Piping Design
081 Pneumatic Structures; Air-Support Buildings
082 Postal Facilities
083 Power Generation, Transmission, Distribution
084 Prisons & Correctional Facilities
085 Product, Machine & Equipment Design
086 Radar; Sonar; Radio & Radar Telescopes
087 Railroad; Rapid Transit
088 Recreation Facilities *(Parks, Marinas, Etc.)*
089 Rehabilitation *(Buildings; Structures; Facilities)*
090 Resource Recovery; Recycling
091 Radio Frequency Systems & Shieldings
092 Rivers; Canals; Waterways; Flood Control
093 Safety Engineering; Accident Studies; OSHA Studies
094 Security Systems; Intruder & Smoke Detection
095 Seismic Designs & Studies
096 Sewage Collection, Treatment and Disposal
097 Soils & Geologic Studies; Foundations
098 Solar Energy Utilization
099 Solid Wastes; Incineration; Land Fill
100 Special Environments; Clean Rooms, Etc.
101 Structural Design; Special Structures
102 Surveying; Platting; Mapping; Flood Plain Studies
103 Swimming Pools
104 Storm Water Handling & Facilities
105 Telephone Systems *(Rural; Mobile; Intercom, Etc.)*
106 Testing & Inspection Services
107 Traffic & Transportation Engineering
108 Towers *(Self-Supporting & Guyed Systems)*
109 Tunnels & Subways
110 Urban Renewals; Community Development
111 Utilities *(Gas & Steam)*
112 Value Analysis; Life-Cycle Costing
113 Warehouses & Depots
114 Water Resources; Hydrology; Ground Water
115 Water Supply, Treatment and Distribution
116 Wind Tunnels; Research/Testing Facilities Design
117 Zoning; Land Use Studies
201 _____
202 _____
203 _____
204 _____
205 _____

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 006	2	100	11) 049	2	60	21) 090	1	30
2) 007	4	800	12) 050	9	192	22) 092	2	100
3) 011	11	2,000	13) 052	2	16	23) 095	1	150
4) 017	3	72	14) 058	2	16	24) 096	15	600
5) 027	2	107	15) 060	2	60	25) 101	101	4,029
6) 029	3	120	16) 064	1	30	26) 102	12	250
7) 039	1	14	17) 072	8	250	27) 103	1	16
8) 042	1	35	18) 084	5	327	28) 108	2	100
9) 046	22	1,100	19) 087	3	35	29) 113	2	20
10) 048	2	36	20) 089	15	195	30) 115	9	259

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
006	C	1 New Unit Terminal & Concourse "C" Bradley International Airport Windsor Locks, CT	Connecticut Dept. of Transportation Wethersfield, CT	20,000	1986
007	P	2 DEW Line Facilities Northern Warning System Canada- Alaska	U.S. Government Corps of Engineers New York	20,000	1987
011	P	3 Deck Replacement of 18 Bridges on I-91 in Greenfield, Northampton and Holyoke, MA	Massachusetts Dept. of Public Works Boston, MA	6,000	1988
027	P	4 Blinstrub's Old Colony House Renovation Dorchester, MA	Blinstrub's Old Colony House Dorchester, MA	300	1988
029	C	5 Addition to Building 1728 Hanscom AFB, MA	U.S. Air Force	200	1988
042	P	6 East Boston Pier Demolition & New Walkways and Station Protection Boston, MA	Mass. Water Resources Authority Boston, MA	N/A	1989 (Est.)
046	P	7 Roadway Reconstruction Hanscom AFB, MA	U.S. Air Force	1,500	1987

048	C	8 Intermediate Care Facilities for Mentally Retarded, Lexington, Canton Brockton, Taunton, MA	Divisions of Capital Planning Boston, MA	3,000	1986
049	C	9 Arctic Hotel Sonderstrom AFB, Greenland	U.S. Army Corps of Engineers New York, NY	800	1986
050	C	10 Lordan Residence Hamilton, MA	Daniel Lordan Hamilton, MA	5,000	Unknown
052	P	11 Koehler Manufacturing Co. Office Addition Marlborough, MA	Koehler Manufacturing Co. Marlborough, MA	500	1983
058	C	12 Integrated Genetic Lab Renovation Addition Framingham, MA	Integrated Genetics Framingham, MA	1,700	1986
060	C	13 Bourne Public Library Bourne, MA	Bourne Public Library Bourne, MA	700	1986
064	C	14 Ferrofluidics Corporation Nashua, NH	Ferrofluidics Corporation Nashua, NH	2,500	1985
072	C	15 MBTA Red Line Headquarters Boston, MA	Mass. Bay Transportation Authority Boston, MA	3,000	1991
084	C	16 Bristol County Jail and House of of Corrections North Dartmouth, MA	Divisions of Capital Planning Boston, MA	26,000 (Est.)	1990 (Est.)
087	C	17 WYE Connector Railroad & Bridge South Boston, MA	M.B.T.A. Boston, MA	2,000	1985
089	C	18 Norfolk House Rehabilitation Boston, MA	Ross Associates Boston,MA	1,700	1986
090	C	19 Material Recovery Facilities Springfield and Boston Metropolitan	Division of Capital Planning Boston, MA	2,500	1989

092	C	20 New Albany Street Interceptor Project Boston, MA	Boston Water and Sewer Boston, MA	10,000	1991
095	P	21 U.S. Army Reserved Facility Bronx, NY	U.S. Army Corps of Engineers New York, NY	8,000	1992
099	C	22 Mashpee Transfer Station Mashpee, MA	Town of Mashpee, MA	1,400	1990
101	P	23 Watervliet Arsenal Hi-Crane Girder Modifications Albany, NY	U.S. Army Corps of Engineer New York, NY	500	1988
102	C	24 Walpole Interceptors and Lateral Sewers Walpole, MA	Town of Walpole MA	800	1986
103	C	25 Storrow Park Swimming Pool Lawrence, MA	Town of Lawrence MA	1,400	1988
106	C	26 On-Shore Facility Assessment Boston Harbor, Boston, MA	Mass. Water Resources Authority Boston, MA	N/A	N/A
108	P	27 Twelve Long Range Radar Towers DEW Line North Warning System Arctic Circle (Canada-Alaska)	U.S. Army Corps of Engineers New York, NY	15,000	1990
113	P	28 Renovation of Warehouse #3 Loring AFB Limestone, ME	U.S. Army Corps of Engineers New York, NY	1,200	1989
115	C	29 Barrows Water Treatment Plant Wilmington, MA	Town of Wilmington MA	5,000	1988
096	C	30 Westborough Waste Water Treatment Facility Westborough, MA	Town of Westborough MA	26,000	1987

12. The foregoing is a statement of facts

Signature: _____ for Typed Name and Title: Chan K. Lin, President

Date: 10/28/88

STANDARD FORM (SF) **255**
Architect-Engineer Related Services for Specific Project

1. Project Name / Location for which Firm is Filing:

2a. *Commerce Business Daily* Announcement Date, if any:

2b. Agency Identification Number, if any:

3. Firm (or Joint-Venture) Name & Address

LIN ASSOCIATES, INC.
Engineers & Architects
2001 Beacon Street
Boston, MA 02146

3a. Name, Title & Telephone Number of Principal to Contact

Chan K. Lin, P.E.
President
(617) 566-4216

3b. Address of office to perform work, if different from Item 3

4. Personnel by Discipline: (List each person only once, by primary function.)

2 Administrative	___ Electrical Engineers	___ Oceanographers	___
3 Architects	___ Estimators	___ Planners: Urban/Regional	___
___ Chemical Engineers	___ Geologists	___ Sanitary Engineers	___
4 Civil Engineers	___ Hydrologists	___ Soils Engineers	___
___ Construction Inspectors	___ Interior Designers	___ Specification Writers	___
5 Draftsmen	___ Landscape Architects	9 Structural Engineers	___
___ Ecologists	___ Mechanical Engineers	___ Surveyors	___
___ Economists	___ Mining Engineers	___ Transportation Engineers	23 Total Personnel

5. If submittal is by JOINT-VENTURE list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm: (Attach SF 254 for each if not on file with Procuring Office.)

5a. Has this Joint-Venture previously worked together? ☐ yes ☐ no

8. Work by firm or joint-venture members which best illustrates current qualifications relevant to this project (list not more than 10 projects).

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Project Owner's Name & Address	d. Completion Date (actual or estimated)	e. Estimated Cost (in thousands)	
				Entire Project	Work for which Firm was/is responsible
(1) Westborough Wastewater Treatment Facility Westborough, MA	Structural Design	Town of Westborough MA	1987	26,000	26,000
(2) Union Park Pump Station New Albany St. Interceptor Boston, MA	Architectural and Structural Design	Boston Water & Sewer Commission, MA	Design 1988	10,000	2,000
(3) Barrows Water Treatment Plant Wilmington, MA	Structural Design	Water & Sewer Commission Town of Wilmington, MA	1988	5,000	1,000
(4) Katrina Road and Southwell Field Pump Stations Chelmsford, MA	Structural Design	Sewer Commission Town of Chelmsford, MA	1988	3,100	750
(5) Wastewater Treatment Plant Field Point, RI	Structural Design	Providence Department of Public Works Providence, RI	1985	40,000	5,000
(6) Cranston Wastewater Treatment Plant Cranston, RI	Structural Shop and As-Built Drawings, Constr. Inspections	Cranston Department of Public Works	1985	22,000	500
(7) Water Transportation Facilities Assessment	Structural and Evaluation Report	MWRA Boston, MA.	1987	N/A	N/A
(8) E. Boston Pier Demolition and New Walkway and Pump Station Protection	Structural Inspection and Design	MWRA Boston, MA.	1988	Unknown	Unknown
(9) U.S. Coast Guard Facilities New England Installations MA.	Civil Inspection and Rehabilitations	U.S. Coast Guard New York, N.Y.	1988	Unknown	
(10) Pump Stations for Gloucester, Bellingham, and Wrentham MA.	Structural and Architectural Design	Towns of Gloucester, Bellingham & Wrentham	Unknown		

10. Use this space to provide any additional information or description of resources (including any computer design capabilities) supporting your firm's qualifications for the proposed project.

Lin Associates, Inc., established in 1978, is a minority owned engineering firm and a small business concern serving both the private industry, the State and the Federal Government. The firm provides full range of services in structural engineering. The professional staff of Lin Associates, consisting of engineers and drafters, offer a broad base of design expertise drawn from a variety of projects conducted in the United States and abroad. The firm possesses solid experience in structural design, rehabilitations and modifications of multi-story commercial and residential buildings, wastewater treatment plants, radar and transmission towers, and parking structures.

Lin Associates' design capabilities are further enhanced by a modern computer facility, consisting of the latest CADD equipment and personal computers, that supports comprehensive structural analysis and design programs. The computer facility also has the capacity to communicate with outside mainframe that are more efficient in handling larger and highly complex structures.

11. The foregoing is a statement of facts.

Signature: _____ for Typed Name and Title: Chan K. Lin, President

Date: 10/28/88

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: CHAN K. LIN, P.E. President	a. Name & Title:
b. Project Assignment: Principal-in-Charge	b. Project Assignment:
c. Name of Firm with which associated: Lin Associates, Inc.	c. Name of Firm with which associated:
d. Years experience: With This Firm 10 With Other Firms 18	d. Years experience: With This Firm With Other Firms
e. Education: Degree(s) / Year / Specialization B.S./1960/Civil Engineering M.S./1965/Structural Engineering	e. Education: Degree(s) / Years / Specialization
f. Active Registration: Year First Registered/Discipline 1967/Professional Engineer	f. Active Registration: Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Lin has technical and administrative experience in a wide range of structural engineering projects. He has had extensive experience in the design, rehabilitation, and modifications of various multistory residential and commerical buildings, parking garages, waterfront structures, wastewater facilities and bridges. He has worked on numerous treatment plants, pump stations. He was the project director for the design of the Wastewater Treatment Facility in Westborough, MA. and two pump stations in Chelmsford, MA. Mr. Lin is currently the project director for the Investigations and Modifications of the High Crane Girders for the Watervliet Arsenal in Albany, NY. He is also served as the Structural project manager for the Expansion of the Bristol County Jail in Dartmouth, MA.	g. Other Experience and Qualifications relevant to the proposed project:

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: EDWARD W. CHISHOLM, P.E. Chief Structural Engineer	a. Name & Title:
b. Project Assignment: Project Structural Engineer	b. Project Assignment:
c. Name of Firm with which associated: Lin Associates, Inc.	c. Name of Firm with which associated:
d. Years experience: With This Firm 1 With Other Firms 23	d. Years experience: With This Firm With Other Firms
e. Education: Degree(s) / Year / Specialization B.S./1964/Civil Engineering	e. Education: Degree(s) / Years / Specialization
f. Active Registration: Year First Registered/Discipline 1972/Professional Engineer	f. Active Registration: Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Chisholm has broad base experience in structural design and management of various buildings, bridges, and marine structures. Specific experience to include: the design of drainage outfall structure for closed drainage system emptying into the Cape Cod Canal, Bourne, MA.; Piers, Seawalls and transfer bridges at Deer and Nut Island, Boston, MA.; Directed design of a pier in Portland, ME.; and design of an underground, arched-roof Metro Station in Washington, D.C. Mr. Chisholm is currently Project Manager for the evaluations and ratings of 100 bridges in various cities of Mass. for the Department of Public Works; the East Boston Pier Demolition and New Walkways and Station Protection Project for MWRA.	g. Other Experience and Qualifications relevant to the proposed project:

4. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: YUK J. YONG, P.E. Senior Structural Engineer	a. Name & Title:
b. Project Assignment: Senior Structural Engineer	b. Project Assignment:
c. Name of Firm with which associated: Lin Associates, Inc.	c. Name of Firm with which associated:
d. Years experience: With This Firm 5 With Other Firms 24	d. Years experience: With This Firm With Other Firms
e. Education: Degree(s) / Year / Specialization B.S./1957/Civil Engineering	e. Education: Degree(s) / Years / Specialization
f. Active Registration: Year First Registered/Discipline 1972/Professional Engineer	f. Active Registration: Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Yong has considerable experience in the design of various structures and transportation facilities. His involvement includes the design of several multi-story commercial and residential buildings, wastewater treatment facilities, radar and transmission towers. Mr. Yong was involved in the modifications to the Long Range Radar Towers of the North Warning System in Canada and Alaska; the renovation and conversion of a 130-year old Boys' Club into condominium in Roxbury, MA.; the Wastewater Treatment Plant in Westborough, MA. Wilmington Barrows Water Treatment Plant and Chelmsford Pump Stations, MA. Mr. Yong is currently the project engineer for the Expansion of the Bristol County Jail in Dartmouth. MA and the Material Recovery Facilities in Springfield, MA.	g. Other Experience and Qualifications relevant to the proposed project:

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title: ROBERT S.T. LIE Project Manager	a. Name & Title:
b. Project Assignment: Project Manager	b. Project Assignment:
c. Name of Firm with which associated: Lin Associates, Inc.	c. Name of Firm with which associated:
d. Years experience: With This Firm 6 With Other Firms 2	d. Years experience: With This Firm With Other Firms
e. Education: Degree(s) / Year / Specialization Post-graduate Structural Engineering Coursework B.S./1981/Construction Engineering	e. Education: Degree(s) / Years / Specialization
f. Active Registration: Year First Registered/Discipline	f. Active Registration: Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Lie has 8 years of structural engineering experience ranging from design to project coordination for a variety of residential and commerical buildings, water and wastewater treatment facilities. He was involved in the expansion of manufacturing facilities, laboratories and offices for Ferrofluidics Corporation in Nashua, NH; and the renovation of Data Packaging Corporation facilities in Cambridge, MA. He was in responsible charge for the design of Wastewater Treatment Facility in Westborough, MA; the Wilmington Barrows Water Treatment Plant and the Pump Stations in Chelmsford, MA. and the design of Bradley International Airport Terminal and Concourse Building in Windsor Locks, CT, Mr. Lie is currently project manager for the Union Park Pump Station Addition and New Albany Street Interceptors in Boston, MA.	g. Other Experience and Qualifications relevant to the proposed project:

7. Brief Resume of Key Persons, Specialists, and Individual Consultants Anticipated for this Project

a. Name & Title: LUIS A. DEL LLANO Structural Inspector	a. Name & Title:
b. Project Assignment: Structural Inspector/Draftsman	b. Project Assignment:
c. Name of Firm with which associated: Lin Associates, Inc.	c. Name of Firm with which associated:
d. Years experience: With This Firm 2 With Other Firms 24	d. Years experience: With This Firm ___ With Other Firms ___
e. Education: Degree(s) / Year / Specialization Civil Engineering Courseworks	e. Education: Degree(s) / Years / Specialization
f. Active Registration: Year First Registered/Discipline	f. Active Registration: Year First Registered/Discipline
g. Other Experience and Qualifications relevant to the proposed project: Mr. Del Llano has extensive experience in the design, presentation, structural investigations and construction supervision of buildings. His experience includes the Administration and Library Buildings for Southeastern Massachusetts University; the commons for the Cape Cod Community College; Rehabilitation for the Lowell Mills and Lowell Memorial Auditorium at Wannalancit Mills, MA. His recent projects inlude the conversion of Building 106 in Charlestown Navy Yard into condominiums and the rehabilitation of two mill type structures in South Boston into office condominiums. Mr. Del Llano is currently involved in the design and drafting for the Bristol County Jail; the addition to Building 1728 of the Hanscom AFB and the 5-million dollar private residence in Hamilton, MA.	g. Other Experience and Qualifications relevant to the proposed project:

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